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National Institute on Drug Abuse

Clinical Report Series

Mental Health Assessment and Diagnosis of Substance Abusers

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
National Institutes of Health

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Mental Health Assessment and Diagnosis of Substance Abusers

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National Institute on Drug Abuse
Office of Science Policy, Education and Legislation
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PREFACE

HOW TO USE THIS CLINICAL REPORT

This report's overall purpose is to highlight the frequency of mental illness among drug abusers and to emphasize the importance of treating mental disorders along with substance abuse. The report is designed to help substance abuse clinicians become familiar with the mental disorders that most commonly coexist with substance abuse and with the ways in which mental health clinicians assess clients. **Section 1** discusses the need for mental health assessment in drug treatment settings and the concept of dual diagnosis. **Section 2** describes seven specific mental disorders with illustrative clinical vignettes.

Section 3 presents the elements of a comprehensive mental health assessment as performed by a mental health clinician and suggests ways to talk with patients about their mental symptoms and engage them in the evaluation and treatment process. **Section 4** outlines an approach to mental health assessment that drug abuse treatment programs can use to identify clients with mental illness. It involves screening for symptoms of mental illness, rating their severity, and formulating diagnoses of mental disorders. It includes screening for problems related to substance abuse, such as cognitive impairment, difficulties in social adjustment, and mental illness. The approach uses psychometric instruments to help clinicians screen for mental symptoms and diagnose mental disorders. These instruments include structured and semistructured clinical interviews as well as self-report questionnaires and rating scales and computer-administrated neuropsychological tests. **Section 5** describes the instruments briefly and **appendix A** does so in greater detail. Readers may wish to refer to the brief summaries of the instruments (section 5) as they read the approach to mental health assessment and examine figure 1, a flowchart of the approach. They may then consult appendix A for more detailed information on particular instruments (including brief overviews of related instruments not described in section 5).

Appendix B, similarly, is designed to supplement the text's discussion of the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM–IV), the authoritative reference that defines various mental disorders and the criteria for diagnosing them. The four parts of appendix B offer: (1) a brief overview of the DSM–IV multiaxial system for classifying mental disorders, (2) the diagnostic criteria for each mental disorder this report discusses, (3) the categories of psychosocial and environmental stressors, (4) and the Global Assessment of Functioning scale. We encourage readers to refer to the DSM–IV directly and caution them against using the criteria in appendix B to make diagnoses. They describe only a fraction of the range of mental disorders, and they omit diagnostic elements that are not relevant to the majority of substance abuse clients. **Appendix C** discusses the psychometric properties of instruments and explains technical terms such as validity and reliability of instruments. **References** are at the end of the report, followed by an **index of instruments.**

SECTION 1

THE NEED FOR MENTAL HEALTH ASSESSMENT IN DRUG TREATMENT SETTINGS

This report is designed to help drug treatment clinicians identify, evaluate, and manage their clients' mental health problems. Since one-third to one-half of people with alcohol or drug abuse disorders have at least one other mental disorder—primarily Panic Disorder, Generalized Anxiety Disorder, Major Depressive Disorder, Bipolar Disorder, Antisocial Personality Disorder, Schizophrenia, and Posttraumatic Stress Disorder (Regier et al. 1990; Rousaville et al. 1982; Mirin et al. 1988; Blume 1989; Lehman et al. 1989; Wallen et al. 1989; O'Brien et al. 1984; Rousaville et al. 1991)—it is essential that drug treatment clinicians be familiar with these mental conditions and the diagnostic and treatment issues involved in caring for clients suffering from them.

Mental illness often presents a significant obstacle to progress in drug treatment. Both clinical experience and research indicate that clients who have serious psychiatric difficulties in addition to their drug abuse problems—the so-called dually diagnosed clients—often do poorly in traditional drug treatment, regardless of its quality, unless their mental health problems are also treated (Wallen et al. 1989). Moreover, there is evidence that effective psychotheraputic and/or pharmacotheraputic treatment of a client's mental disorder may positively affect the substance abuse (Kleber et al. 1986; Kosten et al. 1987; Kosten 1989). Therefore, if drug treatment clinicians are to treat clients with both substance abuse and mental disorders effectively, they must be able to detect serious mental illness, determine its nature and severity, and develop appropriate treatment plans.

Traditionally, substance abuse and mental illness have been treated in separate and different kinds of facilities. Staff in either substance abuse or mental health treatment programs may feel uncomfortable with or ill-equipped to treat the clients served by their colleagues in the other type of program. The clients themselves, however, reflect no such programmatic division: Although carrying two diagnoses, they require a unified treatment plan. Where there are several caregivers a case manager will ideally be available to coordinate care. In many situations, however, this is not feasible, and caregivers will need to cooperate within a coherent, well-organized, multidisciplinary treatment plan.

Unfortunately, the historic divisions between mental health and substance abuse treatment have resulted in dually diagnosed clients "falling through the cracks" and bouncing back and forth between treatment systems that do not adequately meet their complex and multiple needs (Wallen et al. 1989). In more acute situations, life-threatening problems related either to the substance abuse or the mental illness may be overlooked (Wolfe et al. 1989). Therefore, since people with mental illness need and seek care in drug treatment programs and since substance-dependent individuals turn to mental health facilities for help, it is important that both mental health and substance abuse clinicians become familiar with the kinds of disorders and treatment

approaches to which the other discipline is accustomed. This will facilitate accurate diagnosis, appropriate treatment planning, effective referral, interdisciplinary communication, and coordinated patient care. Greater understanding of how other types of clinicians think and what they do will reduce the misconceptions, competitiveness, and animosity that sometimes arise between practitioners of different disciplines. A team approach, uniting various clinicians' different roles and responsibilities, can most effectively treat clients with combined mental health and substance abuse problems.

This report first describes the psychiatric disorders most often found among substance abusers, discusses how to identify these disorders, and suggests an approach for accurately assessing their nature and severity. It also describes how mental health clinicians approach assessment and diagnosis. Finally, it discusses the administrative issues that substance abuse treatment agencies face in implementing a comprehensive approach to mental health assessment.

The Joint Commission on Accreditation of Health Care Organizations (JCAHO) states in its *Consolidated Standards Manual* that a complete intake assessment "includes, but is not necessarily limited to, physical, emotional, behavioral, social, recreational, and when appropriate, legal, vocational, and nutritional needs" (JCAHO 1990, 91). We endorse this multidimensional perspective and believe that drug treatment programs that adopt the procedures suggested below will take an important step toward achieving the comprehensive assessment that the JCAHO requires.

Dual Diagnosis

"Dual diagnosis" describes individuals with both a major mental illness and a substance use disorder. It refers to a heterogeneous group of people who may be dependent on a multiplicity of substances and who suffer from a variety of psychiatric illnesses: Mood Disorders such as Major Depressive Disorder and Bipolar Disorder; Anxiety Disorders such as Generalized Anxiety Disorder, Panic Disorder, and Posttraumatic Stress Disorder; Schizophrenia, Schizoaffective Disorder, and other Psychotic Disorders; and Personality Disorders such as Antisocial, Borderline, or Narcissistic Personality Disorders.

Experts have debated which disorder, the psychiatric or the substance abuse, is primary. Are a client's depressive symptoms, for example, the effect of the drugs he has been using (Wallen et al. 1989), or has he been using drugs in an effort to treat the depression (Lehman et al. 1989; Khantzian 1985)? Such either/or questions are often impossible to answer and, in many cases, do not usefully address a particular client's problems. Programs should instead comprehensively assess a client's difficulties and coordinate treatment of both types of disorders. It is generally agreed that no meaningful treatment of a mental disorder can proceed while a client is acutely intoxicated; however, once the client has been detoxified, jointly treating the two cooccuring disorders is the ideal.

It is important to note that individuals with both mental and substance abuse disorders tend to be more socially disabled than individuals with either disorder alone. They are less able

to keep a job, manage finances, and maintain adequate housing, nutrition, and hygiene (Drake et al. 1989). Tending not to comply with treatment, dually diagnosed individuals generally are rehospitalized at a higher rate than mentally ill patients who do not abuse substances (Drake et al. 1989). Finally, their combined difficulties especially dispose dually diagnosed clients to suicide, violence, and homelessness (Drake et al. 1989).

The Epidemiologic Catchment Area survey found the two most common types of mental disorders coexisting with drug abuse to be Anxiety Disorders (28 percent), such as Panic Disorder and Generalized Anxiety Disorder, and Mood Disorders (26 percent), such as Major Depressive Disorder and Bipolar Disorder (Regier et al. 1990). Antisocial Personality Disorder and Schizophrenia also frequently occur (18 and 7 percent, respectively). Some investigators believe that as many as 50 percent of substance abusers have a Personality Disorder (Blume 1989).

A psychiatric diagnosis describes a client's current and ongoing mental health problems. It specifies a disorder or illness such as Major Depressive Disorder or Panic Disorder. Used insensitively, a diagnosis can be a pejorative label; used professionally, it efficiently conveys to other caregivers a great deal of information about a client. Diagnoses should be based on strict criteria as specified in the fourth revision of the American Psychiatric Association (APA) *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV) (APA 1994). For each disorder, DSM-IV indicates the necessary symptoms, including their minimal duration and intensity, as well as other symptoms that must *not* be present. These criteria give clinicians standard definitions of illnesses that largely eliminate subjective and idiosyncratic diagnoses. DSM-IV criteria allow clinicians to communicate more effectively: one clinician knows what another means when both conform to the same diagnostic definitions. It is important to note that many clients have mild forms of DSM-IV disorders; that is, their symptoms are too few or of inadequate duration or severity to allow a definite diagnosis. Most such clients still require treatment.

In addition to symptoms, clinicians should consider other kinds of information before making a diagnosis. For example, they ought to explore past history. Were there other episodes of mental illness, either like this one or with different symptoms? What treatments were prescribed? Did the person comply? How effective were they? Current level of social functioning is also an important diagnostic variable, indicating the symptoms' severity. Moreover, the distinction between recent deterioration in functioning and chronic dysfunction is important in diagnosing certain mental illnesses such as Schizophrenia. Knowing what kind of social and family supports are available and the client's usual level of social functioning are key aspects of planning treatment and setting realistic goals.

SECTION 2

SPECIFIC PSYCHIATRIC DISORDERS

Below we describe the mental disorders that occur most frequently with substance abuse. Appendix B.1 discusses how the DSM-IV system is used, and appendix B.2 presents the DSM-IV criteria for each disorder below. It is essential to remember that the symptoms associated with psychiatric disorders can also be caused by various pathological physical states and diseases. A physician should thus thoroughly examine all clients to rule out possible underlying medical disorders (JCAHO 1990). It is also important to remember that the symptoms of mental illness may be similar to the effects of certain drugs or to withdrawal syndromes, and that it is difficult to diagnose a mental disorder accurately when a client is actively using drugs. Amphetamines, for example, may produce symptoms that mimic the manic phase of Bipolar Disorder, while alcohol dependence is often associated with depressive symptoms. Using as much information as possible, keeping an open mind, and frequently reevaluating clients will enhance diagnostic accuracy.

DSM-IV defines a mental disorder as a:

> *clinically significant behavioral or psychological syndrome or pattern . . . associated with present distress (e.g., painful symptom) or disability (i.e., one or more important functional areas impaired) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom. . . . [and] not . . . merely an expectable response to a particular event—for example, the death of a loved one (APA 1994).*

This report describes seven disorders: Panic Disorder, Generalized Anxiety Disorder, Major Depressive Disorder, Posttraumatic Stress Disorder, Bipolar Disorder, Antisocial Personality Disorder, and Schizophrenia. We encourage readers to consult standard psychopathology texts and the DSM-IV to augment these brief accounts and to ask them to recognize that we discuss only the disorders they will most often encounter in their work with substance abusers.

Panic Disorder

Clients with Panic Disorder will describe episodes of intense fear that come on suddenly and are accompanied by a number of other symptoms. These vary with each individual, but might include shortness of breath or feeling suffocated, pounding or racing heart beat, dizziness or lightheadedness, an unsteady feeling, trembling or shaking, sweating, choking, nausea, numbness and tingling, hot flashes or chills, and chest pain. Some people feel that they are not themselves or that the world is unreal, and most worry that they are about to die or go crazy. People sometimes go to an emergency room fearing they are having a heart attack. In all cases, Panic Attacks are alarming and discomforting. An episode generally lasts only a few minutes, but the person may feel shaken and distressed for much longer. Episodes tend to occur in

clusters, perhaps several times a week for a few weeks or months, then may stop for some time. Many people become so afraid that they will have an attack that they experience a general state of anxiety (anticipatory anxiety). Some people develop Agoraphobia: they begin to dread going places from which they cannot escape or where they will not be able to find help (e.g., tunnels, bridges, highways, crowded places). Increasingly they stay at home or feel that they are safe only when with another person. Their fear may become so intense and incapacitating that they give up their work and social lives. When Agoraphobia reaches such a debilitating level, the person may minimize or forget the original Panic Attacks.

The cause of Panic Disorder is unknown, but many believe it to be a disruption of brain neurotransmitter systems. Panic Disorder Without Agoraphobia occurs twice as often in women as in men, and Panic Disorder with Agoraphobia is three times more common in women. Symptoms generally begin in the person's late twenties, and patients often have family members with similar difficulties (Liebowitz 1992).

A combination of psychotherapy, behavioral therapy, and pharmacotherapy can effectively treat Panic Disorder. Several medications have proven useful, but not all are appropriate for substance abusers. Imipramine (Tofranil) and desipramine (Norpramin) are effective and safe (Roy-Byrne et al. 1992). Monoamine oxidase inhibitors such as phenelzine (Nardil), while effective, should not be used in this population because they require stringent dietary restrictions. The addictive potential of alprazolam (Xanax) necessitates caution when using it with substance-abusing clients. It may help reduce symptoms but should be monitored very closely, prescribed in small doses without refills, and used for no more than 2 weeks.

> *Ms. T.'s mother brought her to the hospital substance abuse clinic. Her parents had just picked her up at college after her advisor told them that she had a problem with marijuana. Ms. T. told the counsellor that she had begun her sophomore year feeling well but had gone to an emergency room in November because she thought she was having a heart attack. She had suddenly felt terrified that she was going to die. She had a racing heart, could barely catch her breath, was in a cold sweat, and had nearly fainted. The emergency room doctor told her it was just anxiety and prescribed valium. She took it, but the spells continued, sometimes two or three in a day, several days a week. She stopped going to classes, afraid that others would notice how sick she was. She stopped going other places as well, worried that she might pass out and there would be no one to help her. During one spell, her boyfriend gave her a joint to calm her down. It helped, and within a month or two she was smoking much of the day.*

Generalized Anxiety Disorder

People with Generalized Anxiety Disorder worry excessively and unrealistically about various life circumstances. One person might fear he will lose his job, although there is no reason for concern; another might worry that some harm will befall her husband, although there is no real threat. The anxious person feels on edge, startles easily, is irritable, and has trouble

concentrating. The anxious person has difficulty falling asleep or staying asleep and is hyperalert and vigilant, as if waiting for something dreadful to happen. Associated with this ongoing state of anxiety are physical signs of tension: shakiness, restlessness, muscle tightness, and fatigue. Many people complain of a racing heart beat, sweating, chills, and cold, clammy hands; many feel short of breath, dizzy, nauseated, and complain of a lump in their throats.

This disorder usually begins when people are in their twenties and thirties and lasts, on and off, for years. Depression and Panic Attacks may occur alongside the ongoing anxiety. Generalized Anxiety Disorder is usually treated with a combination of psychotherapy and anxiolytic medication, such as one of the many benzodiazepines. For people at risk of benzodiazepine addiction, buspirone (BuSpar) or an antihistamine (hydroxyzine [Atarax, Vistaril] or diphenhydramine [Benadryl]) may be effective (Roy-Byrne 1992).

Mr. L. called the drug abuse clinic hotline saying that he was concerned about his wife's behavior. She slurred her words, stumbled and fell while walking up the stairs, and seemed quite sleepy. He had been away on a business trip for 2 weeks and she had been fine before he left. He had checked the medicine cabinet and noticed that the valium his doctor prescribed when he put his back out some months ago was missing. The clinician asked him to bring his wife to the clinic that afternoon.

Mrs. L., aged 28, appeared somewhat drowsy when the clinic's social worker interviewed her. She reported having felt unbearably nervous ever since her husband had left. She seemed to worry about everything: she was preoccupied with thoughts of her husband's plane crashing, was sure that she was so fatigued because she had cancer, and couldn't fall or stay asleep because she kept thinking about a report she was writing at work. She had a constant headache, couldn't relax, and was unusually jumpy. She felt keyed up and on edge all the time and couldn't concentrate on her work. She felt cold and "butterflies in her stomach". She had been taking a lot of aspirin for her headache and came across the valium. It seemed to help at first, but she found that she needed more and more of it to calm down. Mrs. L. reported that she had felt the same way for a number of months at the end of college. She attributed her apprehensiveness to final exams, and the symptoms resolved when the exams were over. She pointed to a number of stresses in her life: she and her husband had recently moved from another city, she had just started a new job, and her mother, whom they had left behind, was very ill. She had had trouble with drinking too much in the past and admitted to being worried that she was becoming addicted to valium.

The social worker said that Mrs. L. appeared to have Generalized Anxiety Disorder, but that the clinic's medical director should thoroughly assess her to rule out medical causes of her nervousness, such as hyperthyroidism. She agreed that Mrs. L. had been taking too much valium and pointed out that it had not been prescribed for her. She referred Mrs. L. to the clinic's psychiatrist to further evaluate her and prescribe appropriate medication. The social worker recommended that she and Mrs. L. begin working together in psychotherapy to explore her difficulty managing the stresses in her life.

Major Depressive Disorder

When a person is depressed he feels blue, down in the dumps, fed up, sad, and discouraged. Such depressive feelings are universal: everyone feels them to some extent in response to loss and disappointment. Grief, for example, is a normal reaction to the death of a loved one. Although similar to some of the symptoms of Major Depressive Disorder (see below), grief and other depressive reactions have obvious precipitants; they tend to be relatively brief and not unbearably painful.

A person suffering from Major Depressive Disorder feels depressed for most of the day, nearly every day, for at least 2 weeks. There is a real change from usual functioning and he or she may feel hopeless about the future and helpless to do anything about the situation. A depressed person loses interest in what used to be important and withdraws from friends and family. He or she may feel worthless and ashamed or unreasonably guilty. Depressed people may become preoccupied with thoughts of death; they may wish they were dead and contemplate suicide. Severely depressed people may be intent on suicide and have a specific, detailed plan. Some depressed people have difficulty falling asleep or wake up too early; others sleep far more than usual. Some cannot eat, and lose weight; others cannot stop eating and gain weight. One may feel sluggish and slowed down while another is agitated and unable to sit still. Fatigue and lack of energy are important features of depression, as are trouble concentrating, difficulty making decisions, slowed thinking, and distractibility. Elderly depressed people may seem demented because their mental functions are impaired, although these deficits resolve when the depression is treated effectively. Many depressed people are also anxious, irritable, and unnecessarily worried, particularly about their health. In some cases, the worries may be so out of touch with reality as to constitute delusions (i.e., fixed false beliefs) and justify a diagnosis of Major Depressive Disorder, Severe with Psychotic Features.

Major Depressive Disorder can begin at any age. There may be one episode or several over a person's lifetime. An untreated episode may last 6 months or more, with subsequent return to a normal mood state. Some people, however, become chronically depressed, with periods of worsening but little improvement (Weissman et al. 1977). When the depressed mood and associated symptoms persist for at least 2 years, a diagnosis of Dysthymic Disorder should be considered. Symptoms of depression can range from mild to severe and generally have a negative impact on an individual's work, family, and social life. Children and adolescents tend not to verbalize their depressed feelings and instead act them out through antisocial behavior or substance abuse. Indeed, many depressed people turn to illicit drugs or alcohol in hopes of relieving their pain. People troubled with depression often have family members who have been depressed or addicted to alcohol (Derogatis 1989).

Grief is a normal response to loss (Bereavement), and a diagnosis of Major Depressive Disorder would be made only if depressive symptoms were unusually prolonged or severe. Similarly, many medical illnesses, medications, and substances of abuse can produce symptoms similar to those of Major Depressive Disorder. Depressive symptoms "clearly and fully accounted for by the physiological effects" of a medical condition, drug of abuse, medication, or toxin exposure should be diagnosed as Mood Disorder Due to General Medical Condition,

tor Substance-Induced Mood Disorder. For example, a depressed mood that occurs only in association with cocaine withdrawal should be diagnosed as Cocaine-Induced Mood Disorder with Depressive Features, with Onset During Withdrawal (APA 1994, 325–26). It is imperative to identify underlying physical disorders or chemical causes of depression with a thorough history, medical evaluation, and relevant laboratory assessments. In many cases, correction of the underlying problem may alleviate the depressive symptoms.

Most depressive episodes can be treated with one of the many antidepressants now available (Bassuk et al. 1983). Their possible side-effects necessitate careful monitoring. When suicidal ideas or severe anorexia make depression life-threatening, some clinicians recommend electroconvulsive therapy for its more rapid antidepressant effect.

Mr. B. was 15 minutes late for his assessment interview at the general hospital alcohol and drug treatment clinic. He looked tired and somewhat dishevelled. He rarely made eye contact with the interviewer and sat with his head down and shoulders slumped throughout the hour. He spoke softly in response to questions; his answers were short, at times monosyllabic, and he never spoke spontaneously or asked questions of his own. When the interviewer asked, "How can I be of help?" he shrugged his shoulders, mumbled, "I don't know," and began to cry. The interviewer offered him a tissue and said, "You seem very sad."

Mr. B. said that his girlfriend had left him about 1 month ago, saying that she could not stand to see him destroy himself. Since then he could hardly eat, had lost about 10 pounds, and had difficulty falling asleep; he woke every morning about 3:00 a.m. and couldn't go back to sleep. He said he had no energy or interest in anything; he had tried to work for the first week but couldn't concentrate and just stopped going. He decided to come to the clinic when he became preoccupied with ideas of how he might kill himself. The clinician asked what these ideas were and was relieved to learn that he had no specific plan and really did not want to die.

When asked what his girlfriend had meant about "destroying himself," he said that he had started using heroin about 2 or 3 months ago after 2 drug-free years. Asking why only produced another shrug of his shoulders. However, in exploring how long he had been so unhappy, the interviewer learned that his current symptoms had begun a few months before he had started using again. Indeed, he had had unhappy periods like this one off and on for many years and had once been hospitalized because he had been suicidal. At that time, he felt much better while taking an antidepressant and talking with a therapist; when the therapist moved to another city, however, he refused to start with someone new, stopped the medication, and resumed his heroin use.

Posttraumatic Stress Disorder

Posttraumatic Stress Disorder (PTSD) develops after an event so psychologically distressing that it would disturb anyone. The event typically induces profound fear and helplessness and is beyond the range of such normal human experiences as divorce, chronic illness, or death. Precipitating events involve serious threats to one's own life or the lives of loved ones, destruction of one's home or community through war or natural disaster, or seeing or experiencing violence, torture, or death. Examples include rape, incest and childhood sexual abuse, violent physical assault, diagnosis of a life-threatening illness, serious accidental injury, military combat, floods or earthquakes, and car or airplane crashes (APA 1994, 424 ff).

Posttraumatic responses fall into four categories; the traumatized person may:

(1) ***Repeatedly reexperience the traumatic event.*** This may involve recurrent, intrusive memories and nightmares. The traumatized person may suddenly act or feel as if the event were recurring and experience intense emotional distress under circumstances that symbolize or simulate it.

(2) ***Avoid stimuli associated with the event.*** A person with PTSD will deliberately avoid thinking about, talking about, or seeing people or places that trigger memories of, the trauma, and be unable to recall important parts of it.

(3) ***Suffer diminished responsiveness or "psychic numbing."*** The person will be detached from other people, disinterested in once-pleasurable activities, unable to feel emotion, and inhibited from intimacy and sexuality.

(4) ***Suffer symptoms of increased arousal.*** These can include hypervigilance, intense startle response, trouble sleeping, poor concentration, irritability, and difficulty controlling anger. Anxiety and depression are also common, and there may be self-destructive, impulsive behavior in relationships and feelings of shame, hopelessness, and despair.

PTSD usually begins immediately after the trauma, but symptoms may not fully manifest themselves for months or, rarely, years. PTSD often has a major adverse effect on a person's life, interfering with his or her ability to sustain intimate relationships, productive work, or a stable lifestyle.

Many people with PTSD turn to psychoactive substances to dull their psychic pain or rouse themselves from a state of emotional numbness. Research has shown that PTSD and drug and alcohol abuse often coexist (Faustman et al. 1989; Sierless et al. 1983; Kofoed et al. 1993; Cottler et al. 1992), that PTSD is highly prevalent among substance abusers (Bollerud 1990; Fullilove et al. 1992; Burgess et al. 1987), and that substance abuse is common among people who have experienced severe trauma (Brady et al. 1991; Sweetland et al. 1991).

Mr. S., aged 42, had been in and out of various treatment programs for his longstanding heroin use. During his most recent hospitalization, as he listened to another patient talk in group therapy, he realized for the first time that unless he spoke about what had happened when he was a boy, he would never overcome his addiction. He did not understand why he felt this way but was sure that it was important to talk about his past experiences.

In individual therapy later that day he was unusually tense and quiet. When the therapist urged him to say what was on his mind, he said that he wanted finally to talk about something that he had never told anyone. He hid his face in his hands as if ashamed, began to cry, and spoke hesitantly about how a group of neighborhood kids had repeatedly sexually and physically abused him when he was a small child. This had gone on for a couple of years until his family moved to a different city. He was terrified by what they did to him but too afraid to tell anyone because his abusers said they would kill him and his parents if he did. Although he performed poorly in school and was unusually timid and shy, neither his parents nor his teachers guessed the reason. As a teenager he came to believe that the abuse had been his own fault: if he had been stronger they would not have hurt him in this way and, since he had never told anyone, he must have wanted it to happen.

Both Mr. S. and his therapist knew that he had started drinking when he was 8, smoking marijuana by 10, and using heroin at 12. Only after revealing the trauma he had suffered and subsequently exploring its effects on his mood, self-esteem, and behavior, could he understand how he had turned to drugs to deal with his emotional pain.

Bipolar Disorder

Bipolar Disorder, or Manic Depressive Illness, involves changes in mood from depression to mania (Bipolar I Disorder) or hypomania (Bipolar II Disorder). These mood changes generally are separated by months or years of normal mood and functioning, although in some cases they may occur every few weeks (rapid cycling). The depressive phase does not differ from a Major Depressive Episode. A person in the manic phase (or hypomanic phase if symptoms are less severe and last for less than 1 week) will be excessively cheerful and happy, outgoing and friendly, or uncharacteristically irritable and demanding. The manic person is typically overconfident, grandiosely believing that he or she can do or create unusually special things. These beliefs may be delusional, and the person may think that he or she has magical or divine powers or the capacity to change the world. The manic person has racing thoughts and speaks with great pressure and rapidity, jumping from one topic to another (pressured speech and flight of ideas). He or she is overly active, needs little sleep, and gets involved in more projects and activities than can possibly be managed (hyperactivity)—but is so disorganized and unfocused, that these activities are rarely productive. There may be destructive consequences—costly shopping sprees and phone calls, unrestrained sexual involvements, or unwise business ventures.

Manic Episodes can be so severe as to require hospitalization. Hypomania is less dramatic and may, unfortunately, continue for long periods without appropriate clinical attention. A hypomanic person may simply seem exceptionally self-confident, funny, friendly, and energetic or unusually irritable and moody.

A manic person who is psychotic (e.g., believes he or she is the messiah) and bizarre (e.g., dresses in strange clothes, preaches on street corners) is not difficult to diagnose. However, when a businessperson gets involved in several new enterprises, calls associates at midnight to propose novel ventures, and spends thousands of dollars on office equipment, it may not be apparent that this is a major mental illness. Both hypomania and mania impair insight and judgment and are associated with excessive alcohol and drug use. Various medical conditions, such as hyperthyroidism, or drugs of abuse, medications, or toxins may precipitate manic symptoms.

The acute manic phase of Bipolar Disorder generally requires hospital treatment and antipsychotic medication. Once a person has been stabilized, lithium carbonate is the treatment of choice to prevent both manic and depressive mood swings. Carbamazepine (Tegretol) may help patients who cannot tolerate the adverse effects of lithium or do not respond to it.

Mrs. M., age 43, was married with three teenage children. She had been happily married, with many satisfying friendships and meaningful work.

The police brought her to the emergency ward because she was behaving peculiarly when they arrested her for prostitution. She was dirty and unkempt, bizarrely dressed, and gesticulating wildly. She spoke so quickly and jumped so often from one subject to another that it was nearly impossible to understand her. She loudly insisted that she was "an angel of mercy," sent to earth to raise money for starving children. She smelled of cigarettes and alcohol. Emergency room evaluation showed no evidence of medical illness; a toxic screen was positive for alcohol.

The nurse called the home phone number in her wallet. Her husband answered and said that his wife had been missing for a number of days; he expressed great relief that she had been found. He said that for the past few weeks she had been acting strangely. She had almost no sleep yet seemed remarkably energetic. She talked incessantly about her work at the church, although he didn't know to what church she referred. Her mood swung dramatically from cheerfulness to anger, and she was uncharacteristically irritable with the children. He had come home one day to find his daughter in tears because her mother had harangued her for wearing a short skirt. The house was a mess, and he had recently learned that she had not shown up at work for over a week. Several days ago she had disappeared, leaving a note that she was going off on a mission of great importance. He had called the police, who had said they would try to locate her.

Mr. M. said nothing like this had ever happened before but did note that his wife's mother was institutionalized for many years for rapidly cycling Bipolar Disorder.

Antisocial Personality Disorder

Antisocial Personality Disorder entails "a pervasive pattern of disregard for, and violation of, the rights of others" that began before age 15 and has persisted into adult life, with characteristic difficulties in school, work, and relationships. In children, these antisocial behaviors constitute Conduct Disorder. Although it is not always possible to obtain an accurate and complete history, there will be evidence of lying, stealing, and cheating, or similar behaviors; vandalism; running away from home; truancy; and aggressiveness and violence against people or property. Adults tend to have difficulty holding a job because of conflict with employers and coworkers, irresponsibility, and repeated absences. They may be involved in illegal activities and have a history of arrests or incarceration. Many people with Antisocial Personality Disorder are difficult to live with—deceitful, unreliable, abusive, hostile, and demanding. Few have dependable, emotionally close relationships with family or friends; many are sexually promiscuous. Generally, their poor impulse control and reckless behavior make stable relationships rare. Some people with this disorder, however, are charming and manipulative—con artists *par excellence*. Rarely do people with this disorder think about how their behavior affects other people (e.g., setting fires, driving drunk, forcing sex) or show genuine remorse or shame.

Antisocial Personality Disorder affects about 3 percent of American men and less than 1 percent of American women. People with this disorder often abuse substances and often have a parent with similar behaviors (APA 1987). Pharmacologic treatments are available for associated symptoms of anxiety and depression, but various behavioral and psychological therapies have had only limited success.

The court ordered Tom, aged 23 and single, to enter a drug treatment program. This time he had been arrested for robbing a small grocery store, although he had been in jail many times before for assault, theft, and carrying a dangerous weapon. Tom had dropped out of school at 16 and never seemed to be able to hold a job longer than a few months. He lived with a woman who supported him until she found that he had stolen her checkbook and forged her name to buy an expensive car. Tom was handsome and charming. He looked earnestly at the intake worker and told her he was finally ready to work on his problems. He had used cocaine for years, but now he saw that this was causing him great trouble and hoped the treatment staff could help him.

Tom attended therapy regularly for a few months. At each session he reminded his therapist to let his probation officer know that he had come. The therapist at first felt that Tom was working hard on his problems: he talked openly, with great feeling, and expressed a commitment to give up

cocaine. Soon, however, she began to feel uneasy. Everything seemed too good, improvement too rapid. His new girlfriend called to say that Tom had disappeared, taking their new TV and her jewelry. Tom missed his session that week, and his probation officer called the therapist: Tom had held up a store with a gun this time, and the district attorney was talking about prison.

Schizophrenia

Schizophrenia is a chronic, severe mental illness marked by recurrent episodes of acute psychotic symptoms and a chronic phase of residual symptoms that erode a person's overall level of functioning. Certain symptoms are typical, but the severity of symptoms, frequency of acute psychotic episodes, and degree of social and psychological impairment vary. Some people with Schizophrenia have relatively stable relationships and productive work even though they may be functioning at a level lower than anticipated. Others cannot function outside an institution for any length of time, and, if they do not respond to treatment and refuse to be confined, may become homeless and live desperate lives on the streets and in shelters.

Schizophrenia affects how people think, feel, perceive, and behave. It produces delusions—fixed, false beliefs that appear so real that one behaves accordingly. A man might believe, for example, that he is being poisoned by an enemy or sought by the FBI; he will as a result be frightened, suspicious, and hostile, perhaps unable to eat or leave the house. Delusions may be bizarre. A woman, for example, might believe that aliens have put strange ideas in her head (thought insertion) or taken them out (thought withdrawal) or that others can hear her thoughts or read her mind (thought broadcasting). She may feel that outside forces control her actions (delusions of control) or that unrelated events refer especially to her (ideas of reference). People with Schizophrenia are characteristically disorganized (thought disorder) and move from one topic to another without any apparent connection (loose associations). This makes it hard to follow a conversation or to know what they are really thinking. Their speech may be vague and meaningless (poverty of speech), overly abstract, or bizarre, with rhyming (clanging), repetitions (perseverations), madeup words (neologisms), or simply a jumble of words (word salad). Sometimes a person may lose his or her train of thought (thought blocking) and answer questions obliquely or irrelevantly (tangentiality).

Hallucinations are common among people with Schizophrenia. They hear voices—either singly or in groups, familiar or unknown—talking directly to them and to each other, commenting on their behavior, or telling them what to do (command hallucinations). The latter can be dangerous if the voices command suicide or violence. The voices are real to the person and can be very frightening. Less commonly, people with Schizophrenia may see visions or feel strange physical sensations.

People with Schizophrenia are often described as having "flat affect": they seem not depressed but emotionless, with poor eye contact and reduced body language. They may speak in a monotone, show no facial expression, and fail to react emotionally as expected. People with

Schizophrenia may have difficulty attending to and following through on tasks and activities. Their detachment, difficulty with emotional expression, and bizarre ideas and behaviors often impair or preclude relationships. People with Schizophrenia may look odd because of their dress or lack of hygiene. Some are slowed down in their movements, while others move wildly and exaggeratedly. Some cases may include bizarre postures, movements (rocking, pacing), and facial expressions (mannerisms, grimacing). Long-term use of antipsychotic drugs may result in unusual and uncontrollable face and limb movements (tardive dyskinesia). These medications' early effects may be associated with excessive stiffness (extrapyramidal or Parkinsonian symptoms) or, rarely, life-threatening muscle rigidity and hyperthermia (Neuroleptic Malignant Syndrome).

Schizophrenia usually begins during adolescence or early adulthood but may start at any time. There is always an active, acute phase of psychotic symptoms that begins dramatically or gradually, lasts at least 1 month, and involves social withdrawal, lack of initiative and energy, poor school or work functioning, neglect of appearance, and bizarre ideas and behavior. A residual phase of at least 6 months follows during which the delusions may persist but not be so troublesome. A return to a more successful level of functioning is very rare; should it occur, the diagnosis should be reevaluated. Schizophrenia affects about 1 percent of the population, and first-degree biological relatives have a risk about 10 times greater than the general population (APA 1994, 279–83).

It is important to evaluate all people with psychotic symptoms very carefully. Psychosis may be due to brain disease and other medical conditions, illicit drugs, prescribed medication, and various psychiatric disorders, such as the manic phase of Bipolar Disorder or a Major Depressive Episode with Psychotic Features. Clinicians can distinguish between these different disorders by history, course, and careful evaluation. This is essential, since their treatments and prognoses differ.

Antipsychotic medication can effectively treat the acute symptoms of Schizophrenia and may be continued to prevent relapse. However, the possibility of tardive dyskinesia and other adverse effects requires that medication be carefully monitored and the need for it periodically reevaluated. People on clozapine (Clozaril) require particularly close attention and frequent blood tests. Doses of antipsychotics should always be as low as suffices to control symptoms. Methadone treatment for clients with both Schizophrenia and heroin addiction has proven useful in controlling the psychotic symptoms as well as the addictive behaviors. Supportive individual and group psychotherapy are useful, and family members may also benefit from counselling. Many people with Schizophrenia need to live in protected environments and have family members, case managers, or others monitor their care and activities. With help to manage the activities of daily life, many people with this disorder can lead relatively productive lives.

> *The police brought Ms. R. to the substance abuse clinic. They had found her sleeping on a park bench the night before and had taken her and her belongings to the station, thinking her drunk. In the morning, long after her apparent intoxication should have cleared, her behavior was no different.*

The intake interviewer who met Ms. R. noted that she was clutching some plastic bags full of clothes and junk and was dirty and dishevelled. Ms. R. was looking intently at the far corner of the room and occasionally nodded and mumbled something, as if talking to someone over there. The interviewer asked her name. "What do you want to know that for?" she replied with suspicion and fear. She refused to answer many questions, and, when she did speak, made little sense. Although at moments the interviewer understand what Ms. R. was saying, he realized as he thought about it that her statements had no real substance or meaning. Patient questions did enable him to learn that during her final year of high school she had trouble concentrating on her work and finishing assignments. She spent most of her time alone and started drinking to pass the time. She smoked marijuana regularly and tried cocaine, LSD, and "lots of other stuff." Her parents became worried and took her to a psychiatrist, who put her in a hospital and gave her medicine. After that it seemed she was always in one hospital or another. She hated the medicine they gave her and never took it after she left the hospital. She liked to drink because that seemed to make the voices go away, and she would take whatever drug was offered to her; now she had no money left to buy a bottle.

SECTION 3

COMPREHENSIVE MENTAL HEALTH ASSESSMENT

Effectively treating dually diagnosed clients depends, above all, on correctly identifying the nature and severity of the concurrent mental illness(es). Only thus can the clinician determine the appropriate treatments. This section describes how mental health practitioners evaluate clients to diagnose and determine the severity of their problem(s). Our purpose is not to instruct clinicians in how to conduct such an evaluation, but rather to outline its elements so that substance abuse clinicians may understand more fully what mental health clinicians do when they assess a client. This will enable them to recognize the components of a complete and comprehensive evaluation and to talk in an informed way with mental health colleagues. We can touch on only a few of the most important topics and issues, and we encourage interested readers to consult appropriate texts for more information and to participate in relevant educational programs.

Presenting problem or chief complaint

Most clients come to a treatment program seeking help with a specific problem. Some can specify what is wrong (e.g., "I'm depressed"; "I can't stop drinking"; or "I'm hearing voices again"), while others know only vaguely what is troubling them (e.g., "I'm upset" or "I don't feel right"). Some describe a situational problem, rather than a psychological one (e.g., "I just lost my job" or "My father threw me out of the house"), and some deny having a problem at all (e.g., "My probation officer told me to come" or "My wife brought me").

The clinician wants to clarify the presenting problem or chief complaint and to learn as much about it as possible: How severe is the problem? How long has it been going on? How much does it interfere with daily activities? Has this ever happened before? What has the client tried to do about it? What has worked and what has failed?

Past psychiatric history

Most major mental illnesses involve chronic, ongoing symptoms or discrete periods of difficulty that recur throughout a life. The diagnosis may hinge on knowing past events. A clinician may ask: Have you had problems like this before? Did you ever see a psychiatrist or counsellor for any reason? Were you ever in a psychiatric hospital or did you receive medication for emotional difficulties? Encouraging a client to say as much about the past as he or she can is often very useful. A depressed woman, for example, may report that she has had episodes just like this one over the years, initially suggesting a diagnosis of recurrent Major Depressive Disorder. However, when she also describes a time when she had racing thoughts, slept only a few hours a night, started several new projects that she couldn't complete, and spent

$1,500 in phone calls to people she barely knew, she has added a Manic Episode to her history, requiring a diagnosis of Bipolar Disorder rather than Major Depressive Disorder. An interviewer who learns that a client has been hospitalized and received medication knows that the disorder was severe.

A client's past psychiatric history also sheds light on what treatments might work. If a client reports that a particular antidepressant effectively eliminated depressive symptoms 5 years ago, it is likely to do so again. On the other hand, if a client says that she has been in psychotherapy several times but always left after a few months because she was dissatisfied with the therapist, it is predictable that she will have difficulty engaging in treatment with anyone. Finding out what was disappointing will provide useful information for the next therapist, who can point out the pattern and urge the client to talk about the problem rather than leave treatment.

Family history

Many psychiatric disorders run in families. The families of people with Major Depressive Disorder have higher incidences of depression and alcoholism, and Panic Disorder is often found in several generations of a family. Hence, when a client's symptoms alone are not striking enough to establish a particular diagnosis, a strong family history of similar or related difficulties may lead a clinician to consider the diagnosis more seriously. In addition, medications that work for one person in a family often are effective for others. A clinician, for example, may ask: Does anyone else in your family have symptoms like yours? Has anyone needed to see a psychiatrist or counsellor, or been in a psychiatric hospital or taken medicines for emotional problems? What name was given to your relative's problem? Has anyone had trouble with depression or alcohol?

Personal history

It is important to get to know the client. What has his or her life been like? Did he or she come from a stable and loving family, or one of disruption, violence, drug use, or physical or sexual abuse? Early trauma can have a devastating effect on personality development, and trauma survivors may have difficulty entering and staying in treatment because their basic trust in people has been undermined. What has been the quality of this person's relationships? Have there been significant friendships, supportive and mutually satisfying relationships, or has there been only isolation, mistrust, and loneliness? Does the client describe a pattern of being abused in relationships, or of being, instead, demanding, self-centered, and disrespectful? What is his or her educational and work experience? How did the client do academically, and how were his or her relationships with peers and people in authority? Were there problems with truancy, erratic employment, conflict with others, or lack of direction? Have there been legal problems and evidence of antisocial behavior?

The interview should explore all these social and interpersonal issues in depth, referring both to past experiences and the current situation. This will paint a picture of the client's current level of work and family functioning. It will also show whether he or she has, and can effectively use, a support system that can respond to his or her needs.

Mental status examination

The mental status examination formally evaluates a person's mind and behavior just as the physical examination assesses bodily functioning and health. Diagnoses depend on the findings on the mental status examination, interpreted in the context of the history of the present illness, the assessment of the current level of functioning, and the past history. Some parts of the mental status examination depend on observation--appearance, behavior, and patterns of speech and thought—while others require probing questions concerning mood, suicidal and other ideas, hallucinations, and cognitive functioning.

Appearance and behavior. One can learn much—but, of course, not everything—from how a person looks and behaves. An experienced clinician carefully observes facial expression, posture and movement, clothing, grooming, and hygiene. A person preoccupied with hallucinations will be inattentive, perhaps looking around to find where the voices are coming from. A chronically psychotic person, especially if homeless and destitute, may be dishevelled and unkempt. A depressed person looks sad, dejected, perhaps avoids direct eye contact; sitting with this person, the interviewer may feel subdued and disheartened. By contrast, a hypomanic person makes others feel like laughing. An observant interviewer may notice bizarre gestures in a person with Schizophrenia, agitation or slowed movement in a depressed person, or muscle tension and shakiness in a person with Generalized Anxiety Disorder. The interviewer should also be attentive to how cooperative the client is and how able to relate to another person.

Verbal expression. Quality of speech is an important indicator of mental illness. A depressed person typically speaks slowly and softly, while a manic person's speech is pressured, loud, rapid, and flies from one topic to another. A paranoid person may be evasive and noncommittal, while a person with Schizophrenia may exhibit some of the verbal disorders described earlier.

Thought content. The examiner is curious about a person's thoughts. Is he or she preoccupied with worries and fears, as in Generalized Anxiety Disorder, or ruminating about failures and inadequacies, as in Major Depressive Disorder? "What in particular worries or troubles you?" the interviewer will ask. Does the client have delusions, obsessions (persistent unwanted thoughts), compulsions (repetitive unwanted urges to do certain things), or phobias (irrational fears of specific objects or situations)? The interviewer encourages the client to talk openly about all these thoughts and inquires directly about suicidal and homicidal ideas.

Mood and affect. What is the quality of a person's usual emotional state (mood) and what feelings (affects) does he exhibit at the moment? Is the client anxious, depressed, or euphoric (inappropriately cheerful)? Is the mood unusually flat or subdued, as in Schizophrenia?

Are certain feelings prominent, such as anger, sadness, or joy? Does the person seem empty and devoid of feeling, or overwhelmed by various and rapidly shifting feelings (emotional lability)? Is the client's mood consistent with what he or she is thinking about? Does it change over the course of the day? Schizophrenics may seem emotionally unperturbed by frightening ideas (i.e., their mood is incongruent with the content of their thoughts), and depressed people may be especially despondent early in the day.

Perception. The examiner inquires directly about hallucinations in all perceptual spheres: visual (visions), auditory (voices), olfactory (strange smells), gustatory (strange tastes), tactile (strange skin sensations), and visceral (unusual internal sensations). Schizophrenic hallucinations are typically auditory, although other types do occur. Hallucinations associated with metabolic or structural brain disease or with states of drug intoxication or withdrawal are often visual, olfactory, or tactile. Whereas hallucinations are entirely imagined perceptions and, hence, indicate psychosis, intensely anxious persons may have illusions, distorted perceptions of real objects (e.g., misperceiving a piece of dirt as a bug).

Cognitive function. Cognitive impairment that develops in adult life invariably indicates acute or chronic brain disease or dysfunction. This may be due to structural damage to the brain, which is usually permanent, or to more transient effects of drug intoxication or withdrawal. Some impairments cannot be remedied (e.g., dementia due to Alzheimer's disease or another neurological disorder such as Multiple Sclerosis or Parkinson's disease, and alcohol-induced Korsakoff's psychosis). In other cases, however, therapies are available and rapid assessment and treatment are essential (e.g., delirium associated with acute intoxication or withdrawal, Wernicke's encephalopathy, or acute head trauma). Severe depression may be associated with impairment in cognitive functioning including forgetfulness, trouble concentrating, and inattention. These deficits resolve when the depression is effectively treated.

A thorough evaluation of cognitive status addresses the following functions: orientation, attention, memory, calculation, language, abstract reasoning and problem solving, insight, and judgment. Generally, an interview can detect severe problems, but only formal testing by a trained neuropsychologist can find subtle deficits.

The clinician determines whether the person is oriented to time, person, and place (i.e., knows the time, day, date, and year; who he and others are; and where he is) and whether he can maintain his attention and concentrate on the task at hand. The examiner assesses memory for verbal and visual material for both recent and past events, arithmetic and calculation skills, and the ability to comprehend others and express oneself verbally and in writing. The client's general level of intelligence (IQ) and ability to think abstractly, solve commonplace problems, and show good judgment and insight (i.e., awareness of one's problems and current situation) are also evaluated.

Medical history and physical examination

Many physical disorders manifest themselves either initially or later in the course of the illness through mental symptoms. Most familiar to drug treatment personnel are acute alcohol intoxication and withdrawal, where hallucinations result directly from disruption of the usual physiological state. Various endocrine diseases (such as hyper- and hypo-thyroidism), neurological disorders (e.g., multiple sclerosis, stroke), metabolic problems (e.g., malnutrition, diabetes), and cancer may be associated with depression and anxiety. Medications may also produce mental changes. Physical examination and appropriate laboratory studies are thus essential in drug treatment programs to ensure detection of not only the physical effects of substance abuse, but also of other physical causes of mental symptoms.

SECTION 4

AN APPROACH TO ASSESSING MENTAL HEALTH IN A DRUG TREATMENT SETTING

This section outlines an approach by which substance abuse clinicians can assess their clients' mental health. A flowchart summarizes this approach for easy reference. We emphasize the value of effective interviewing and offer some strategies to help clinicians enhance their interviewing skills. We discuss the use of psychometric instruments for mental health assessment and suggest how to select instruments. Finally, we indicate how to adapt this approach to different treatment settings, address implementation issues relevant to drug treatment program administrators, and provide guidance regarding treatment, consultation, and referral.

Talking with clients

Acquiring effective interviewing skills takes time, as well as practice, experience with a variety of clients and clinical situations, and effort to improve these skills. While entire books are devoted to helping clinicians improve their interviewing techniques, a few basic principles are worth emphasizing.

To obtain sufficient information during the initial assessment interview to make accurate substance abuse and psychiatric diagnoses, a clinician must have rapport with a client. If the client is to reveal enough for the clinician to make a correct assessment, he or she must feel that the clinician wants to understand and will try to help. The initial interview also serves to engage the client in the evaluation and, ultimately, in the treatment process. Clients who feel respected and valued are much more likely to engage in ongoing treatment.

When first meeting the client, the clinician wonders: What kinds of problems does this person have? How can we help this person? How can we facilitate this person's full and active participation in diagnosis and treatment? Attentive listening is the key to finding answers. As necessary as knowing what to ask is knowing how to sit quietly and allow the client to speak about whatever he or she finds important.

Ideally, the interview should occur in a quiet, private place where others cannot hear and will not interrupt. While it is important to be cordial, a professional demeanor is imperative. Clinicians should be sympathetic, but not overly friendly. It is appropriate and respectful to use the client's title and last name (e.g., "Mr. Jones", rather than "Bob") and to introduce oneself in the same way, indicating clearly one's role in the program (e.g., "Hello, I am (Ms.) Jennifer Smith. I am a clinical social worker/case manager/drug counsellor/nursing student here at the clinic.") The interviewer should describe the meeting's purpose, estimate how long it will take, and indicate what will be done with the information, especially who will have access to it. For example: "We'll talk today for about an hour so that you can tell me about the kinds of

problems you've been having. If we don't get through everything today, we may have to meet again to finish up. I'm part of a team of drug counsellors, clinical social workers, psychologists, and nurses. The team will meet later to talk about what we think would most help you."

It is essential that clinicians respect each client's right to confidentiality. This is a legal requirement and an ethical obligation as well as good clinical practice: a client will not talk honestly and openly without believing that the interviewer will not convey what is said to anyone else. Although precise legal obligations vary by state, they generally require clinicians to disclose information about clients under certain circumstances (e.g., to warn a potential victim when a client threatens harm, to report child abuse, to prevent suicide, or to comply with subpoenas or other court orders). Otherwise, clinicians must take care not to reveal anything about a client—even that the agency is providing treatment—to another person without the client's express permission. Clinicians should take special care not to communicate information inadvertently by talking about clients in public places, for example, or by responding to a distressed relative's urgent questions. An interviewer might say, "I will keep everything you say strictly confidential, and we will meet again so that I can give you feedback about what the team thinks. The only exception would be if I thought that your safety or the safety of someone else was in jeopardy. In that case I would share my concerns with you. Because we want to help you, we may ask your permission to speak to your doctor/lawyer/spouse, and we expect you will grant it."

Clients feel more comfortable and consequently reveal more about themselves when asked openended questions in a nonthreatening, nonconfrontational way. A client who fears being hurt—someone who is paranoid, perhaps, or has developed a self-protective style to cope with past abuses—may answer only "yes" or "no" if the questions allow it. Openended, nondirective questions and comments, on the other hand, invite a person to talk. They convey the message that the interviewer wants to know the whole person, not simply to hear answers to specific questions. Interviewers should leave clients free to tell their stories in their own way so that the interview provides unbiased, accurate information. "Tell me about yourself" invites a more thoughtful and complete response than, "How are you feeling?", to which one could reply "fine" or "not good." In asking, "Are you feeling sad?" a clinician makes an assumption about the client's emotional state. Not only could he or she be wrong, but the question might make the client feel misunderstood.

Empathic and reassuring comments that neither intrude nor presume knowledge of the person facilitate opening up. "That must have been difficult for you," is general enough to convey that the interviewer has heard the client and appreciates that there is a problem; it does not put words in the client's mouth or make a reticent client feel intruded upon. It invites him or her to continue talking about what is distressing. In many cases, a nod, smile, or look of concern suffice to comfort a troubled person. Although clinicians must avoid being falsely reassuring, they can hearten a client by conveying that they will take his or her problems seriously and make help available.

Interviewers may feel uncomfortable discussing suicidal ideas. Many fear that asking about suicidal ideas will "put them into a person's head" if they are not already there or push a person to act on these thoughts if they are present. No evidence suggests this is true. To the contrary, most people who have suicidal ideas fear them and welcome an opportunity to tell someone about them. It is essential that substance abuse clinicians know whether someone is thinking about suicide. It is also essential to determine how intent the person is on dying and how likely it is that he or she will attempt suicide. Only with this information can the clinician reasonably judge how to act to ensure the client's survival. Suicide is, unfortunately, inherently unpredictable. However, the interviewer can assess the degree of risk by evaluating the seriousness of the person's intent (does this person *really* want to die?), the lethality of the plan (how likely is it to result in death?), and whether any circumstances might impair the person's judgment and cause him or her to miscalculate an act's effect. For example, a person who may only want to signal distress, but not really want to die, may take more pills than intended if intoxicated or cognitively impaired. Explicit inquiries about the details of a client's thoughts convey genuine concern for his or her wellbeing. This helps a client feel that the interviewer understands and is willing to hear painful and disturbing thoughts.

Delusions and hallucinations are the hallmarks of psychosis. As indicated earlier, these symptoms may be associated with substance abuse (e.g., intoxication, withdrawal, or chronic use), medical illness (e.g., brain tumor or metabolic abnormalities), or mental illness (e.g., Schizophrenia, Major Depressive Episode, Severe with Psychotic Features, or Manic Episode, Severe with Psychotic Features).

Clients who experience these phenomena are troubled, and interviewers should approach these issues thoughtfully and sensitively. An interviewer might ask, for example: Has anything strange or unusual happened to you lately? Have you had ideas or experiences that other people might think are unusual? Could you tell me about them? Have you heard things that other people didn't seem to hear, perhaps strange noises or voices, or people whispering or talking? It is important to learn whether the hallucinated voices command the person to harm him or herself or someone else to determine the need for protective action. It is best not to argue with a client about delusional beliefs: the client will not give them up and may feel misunderstood and alienated from treatment. The interviewer may, if necessary, indicate that he or she does not see things the same way, while still empathizing with the client's feelings and providing reassurance (e.g., "No, the coffee hasn't been poisoned, but if you're worried, you needn't drink it. You're perfectly safe here." "No, I don't hear the voices you describe, but I can see that they're upsetting you, and we'll do all we can to help.")

Using psychometric instruments in mental health assessment

A number of screening and diagnostic instruments are available to help clinicians determine the severity of clients' mental symptoms and make psychiatric diagnoses. Instruments can also be used to monitor progress throughout treatment and evaluate its effectiveness. They also can provide data for research and administrative recordkeeping.

There are basically two types of mental health assessment tools—those for making psychiatric diagnoses, and those for detecting symptoms and rating their severity. Diagnostic instruments are generally structured or semistructured interviews that gather information about current psychiatric symptoms and past psychiatric history in order to diagnose specific disorders such as Major Depressive Disorder or Schizophrenia. Most interview schedules consider symptoms "present" if they: are sufficiently severe to have disrupted work or social life, have compelled the person to seek medical attention, and have lasted for a specified period of time. These "present" symptoms are compared to a set of preestablished diagnostic criteria to determine whether there are enough to warrant a specific psychiatric diagnosis. Interviewers typically indicate their level of confidence in the diagnosis; e.g., definitely, probably, possibly, or not present. Examples of diagnostic interviews include the Structured Clinical Interview for Axis I DSM–IV Disorders, Patient Edition (SCID–I/P), and the National Institute of Mental Health (NIMH) Diagnostic Interview Schedule (DIS). These interviews are used with specific diagnostic criteria such as DSM–IV.

Diagnostic interviews last about 1–2 hours. A mental health clinician should administer the SCID–I/P, while a well-trained nonclinician can administer the DIS. Even seasoned mental health clinicians must be trained to administer these interviews and to use the data to make valid and reliable diagnoses. The costs of using a structured interview as part of the assessment procedure include materials (e.g., the printed interview schedule, scoring sheets, etc.), fees to train one or two staff members, and salaries for staff time spent conducting interviews.

Symptom screening and severity rating instruments can be used to identify the presence of certain symptoms and rate their severity. They cannot be used to identify specific psychiatric disorders such as Major Depressive Disorder or Schizophrenia, because symptoms are simply listed and not clustered into particular diagnoses. Rating scales only assess present symptoms (e.g., past week or month) and gather no historical data. These instruments can be used to indicate the kinds and intensity of symptoms troubling a client; staff may then decide whether to refer a client for more definitive diagnosis and treatment.

Screening generally involves a client self-report on a written questionnaire. Questionnaires vary in format: some expect the client to show which of a set of statements apply to him or her; others ask the client to indicate to what extent (how often and/or how much) various statements apply to him or her; still others ask true/false or yes/no questions. Scoring usually entails adding numbers preassigned to each statement; some instruments provide only total scores, while others also provide subscale scores. Test developers usually recommend cutoff scores to delineate mild, moderate, and severe symptoms. Many tests have been used with a variety of populations so that a client's score can be compared to these groups' scores (e.g., the general population, specific age groups, or people with various psychiatric or medical problems). Although they may be called "depression scores" or "anxiety scores," they do *not* provide diagnoses of specific mental disorders; instead, they reflect the severity in a client of symptoms that are generally found among people with some form of depressive or anxiety disorder.

Clients can generally complete self-reports alone, requiring no staff attention. Scoring usually involves minimal training and limited staff time. The major exception is reading questionnaires to clients who cannot read themselves or have cognitive defects that limit their ability to understand questions or instructions. The instruments usually must be purchased but generally prove much less costly to use than interviews. Their major limitation is that they provide neither information about the past nor diagnoses.

Standardized diagnostic instruments can improve accuracy, efficiency, and uniformity of diagnosis. Structured interviews ensure that interviewers—once trained—collect the same kind of information and rate the severity of symptoms consistently. Use of formal diagnostic criteria ensure that diagnoses are valid and free of idiosyncratic judgments and biases.

Symptom severity rating scales can be used to monitor the treatment process and evaluate outcome by targeting particular symptoms and behaviors, determining their initial severity, and systematically gauging how they change during treatment. For example, if a client is depressed on entry into treatment, a program can measure change in depressive symptoms by administering a symptom severity rating scale at the beginning of, at key points during, at the end of, and some months after treatment. Rating scales are designed to be administered repeatedly so that users can assume that a changed score reflects real change within the client and not simply change in the test or how the client might have understood it. Diagnostic interview schedules can also be used to rate the severity of individual symptoms and, when administered repeatedly, determine change over time.

Some drug treatment programs may wish to collect client data for administrative purposes, program evaluation, or special research projects. Routinely using standardized clinical assessment instruments will enable them to develop databases that allow easy tabulation of the number of clients with particular diagnoses or symptoms, facilitate reporting and provide research data.

Selection of instruments

Many diagnostic and assessment instruments are available to drug treatment clinicians (Sweetland et al. 1991; McDowell et al. 1987). They differ in their purpose (e.g., diagnosis versus screening), suitability for different clients (e.g., literacy required), scope of information gathered (e.g., all forms of psychopathology versus only depression), and format (e.g., interview versus self-report). Some have been repeatedly revised and evaluated for accuracy in detecting and measuring symptoms; others are newer and untested. Some have been used with people of different socioeconomic and racial backgrounds and who suffer from different types of psychiatric problems, while others have been used only with a limited range. Some were designed for research and are too time-consuming and detailed for clinical settings. Clients can complete some themselves if they can read, write, and understand the instructions; interviewers must administer others. While the latter generally provide more complete and accurate information than self-report tests, they require trained interviewers and sometimes experienced clinicians and considerable interviewing and scoring time, making them more expensive to use.

This report describes screening and assessment instruments usable in most drug treatment settings to identify mental symptoms and disorders, cognitive impairment, social adjustment problems, as well as related physical symptoms and disorders. A companion report, *Assessing Drug Abuse Among Adolescents and Adults: Standardized Instruments* (The National Institute on Drug Abuse [NIDA] 1994), describes instruments for assessing substance abuse, health problems, and such related areas as school, work, and family problems. We used the following criteria to select instruments for discussion; an instrument:

(1) must provide valid (accurate and correct) and reliable (dependable and repeatable) information;

(2) must be suitable for use by clinicians in drug treatment programs who are currently responsible for evaluating and treating clients;

(3) should be suitable for the full range of drug treatment clients, including those who speak Spanish or who cannot read;

(4) should complement a program's usual intake, evaluation, and treatment, procedures; i.e., should be brief and easy to administer and should not offend clients; and

(5) should not be expensive; i.e., reasonable costs of purchase, staff training time, administration, scoring, evaluating, and maintaining data.

Inclusion herein does not necessarily mean that an instrument is the best available; nor does exclusion mean that an instrument is not adequate. We established our criteria to select those instruments that drug treatment programs could use easily and well. We thus did not select many fine instruments. We have, however, mentioned and briefly described some that are used in research (because staff may have encountered them in the literature) as well as some acceptable, though perhaps not so commonly used, alternatives.

A seven-step approach to assessing mental health in drug treatment settings

In an ideal world, an experienced mental health clinician who could detect even subtle evidence of mental illness would evaluate every person entering a drug treatment program and recommend appropriate treatment. The program would repeat this assessment at the end of treatment to determine whether change had occurred. Unfortunately, in our non-ideal world, we must find ways to give patients the best possible care despite limited resources.

The following text outlines, and figure 1 illustrates, an approach to mental health assessment designed to identify mental illness in substance abusers. It uses one-to-one interviews as well as screening and diagnostic instruments. The flowchart (figure 1) outlines the key steps to detect symptoms and signs of mental illness, rate their severity, diagnose specific disorders,

assess such related problem areas as social adjustment, formulate a treatment plan, and determine treatment outcome.

Table 1 summarizes the approach slightly differently. It shows the problem areas that a comprehensive assessment covers as well as the particular instruments that might be used, how long it might take, and which of its aspects require mental health clinicians. As table 1 shows, drug counsellors without experience or special training in mental health assessment or treatment can carry out the bulk of the assessment.

The text below expands upon figure 1, describing a seven-step approach that should enable drug treatment programs to reduce the probability that significant mental illness will go unnoticed and untreated. This approach conforms to a high standard of clinical assessment and yet should not be excessively expensive. Section 5 summarizes the instruments mentioned in the figure and text and appendix A describes them in more detail.

Step 1: Initial interview

When a client enters a drug treatment program, the initial interview has several purposes:

(1) to give the client information about the evaluation process, the assessment and treatment services available, and the program's policies and practices;

(2) to establish a relationship with the client and engage him or her in the evaluation and treatment process;

(3) to determine the nature and extent of the substance abuse; and

(4) to identify other problems, including mental illness, requiring further evaluation and treatment.

A mental health clinician (e.g., psychiatric nurse, psychologist, or psychiatrist) or an appropriately trained non-mental health clinician (e.g., clinical social worker) may conduct the initial interview. A mental health clinician typically will gather information about the client primarily through a clinical interview that asks about current and past substance abuse, mental health, social adjustment, and physical wellbeing. He or she will perform a mental status examination to elicit symptoms of mental illness, cognitive impairment, and physical illness. He or she will use this information to specify the client's substance abuse problems, make a psychiatric diagnosis, and recommend further evaluation and treatment. A mental health clinician may also use the various screening, symptom severity rating, and diagnostic instruments to which table 1 and figure 1 refer.

Non-mental health clinicians may also conduct initial interviews, but they will require special instruction and training to gather the kind of information that mental health clinicians have already been trained to collect. They may learn to conduct openended, unstructured

FIGURE 1: AN APPROACH TO MENTAL HEALTH ASSESSMENT

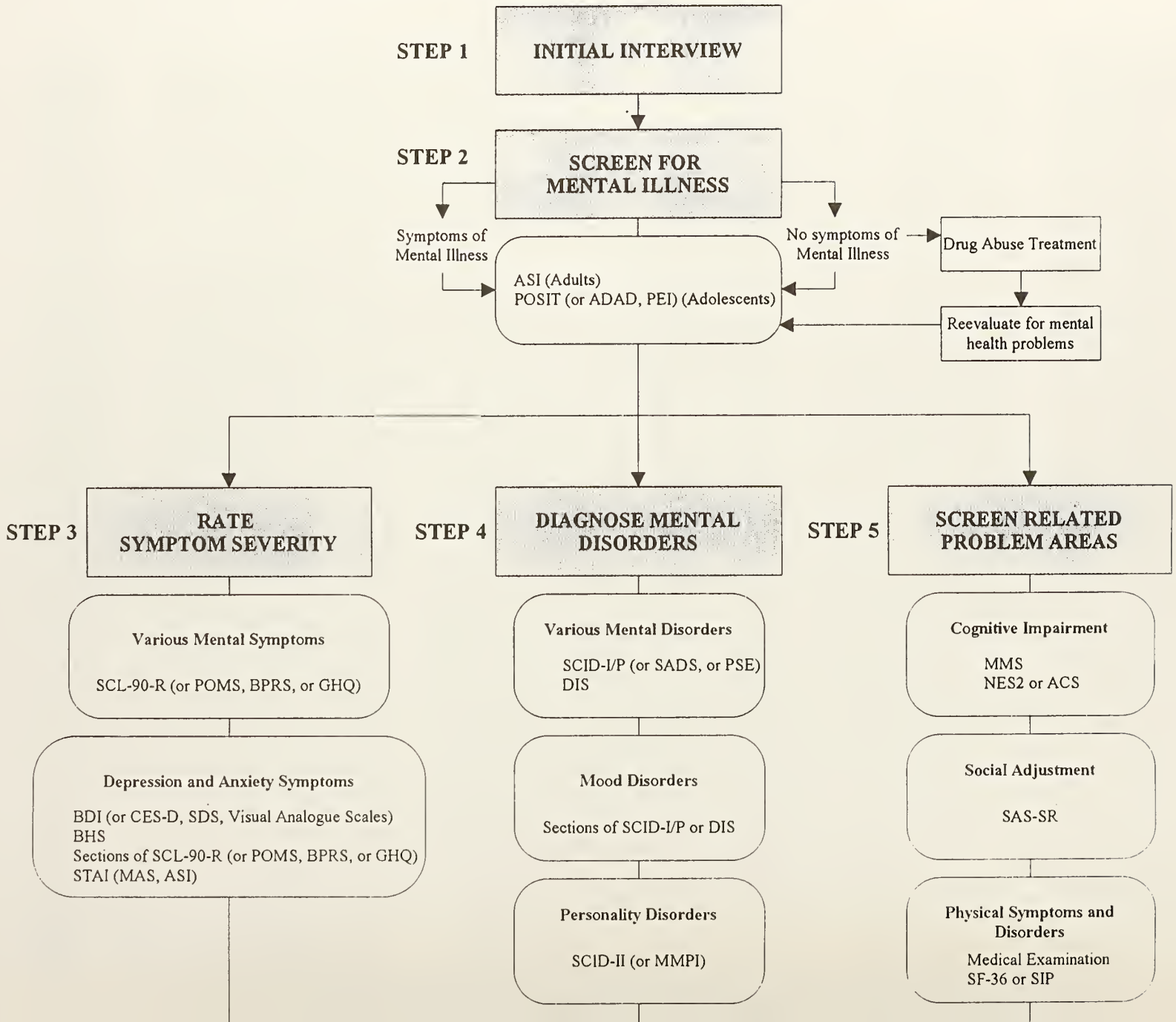

FIGURE 1(Cont.) : AN APPROACH TO MENTAL HEALTH ASSESSMENT

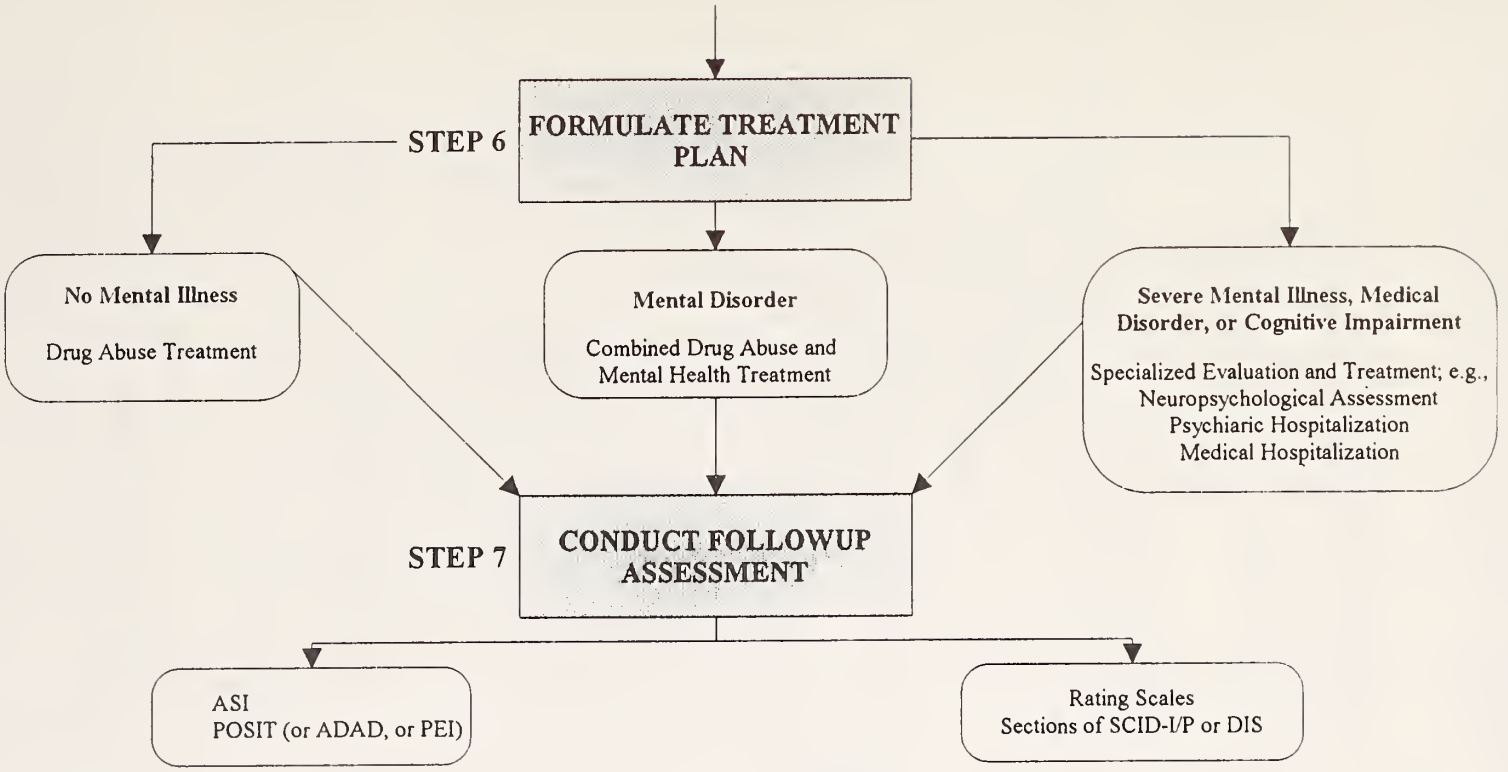

Table 1. An Approach to Mental Health Assessment: Problem Areas Assessed

TYPE OF ASSESSMENT	PROBLEM AREAS					Duration (Hours)	Staff* Required
	Substance Abuse	Mental Symptoms and Disorders	Cognitive Functioning	Social Adjustment	Physical Symptoms/ Disorders		
Initial Interview	Clinical Interview	Clinical Interview	Clinical Interview	Clinical Interview	Clinical Interview	½–1	MHC, NC
Screen for Mental Illness	ASI, POSIT, or ADAD					1	NC
Rate Symptoms/ Severity		SCL–90–R (or POMS, BPRS, or GHQ) BDI (or CES–D, SDS, or Visual Analogue Scale) BHS				½–1	NC
Diagnose Mental Disorders		SCID–I/P or DIS (or SADS or PSE) SCID–II (or MMPI)				1–2	MHC
Screen Related Problem Areas			MMS NES2 (or ACS)	SAS–SR	Medical Exam, SF–36, SIP	½–1	NC

* MHC = Mental health clinician or specially trained non–mental health clinician
NC = Non–mental health clinician (e.g., drug counselor)

interviews or to use checklists or other structured data collection instruments. Non-mental health clinicians are usually not trained to perform mental status examinations or to identify symptoms of medical illness and are generally unqualified to make psychiatric or medical diagnoses.

This report describes instruments that non-mental health clinicians will find particularly useful. The screening and symptom severity rating tools require very little training and enable staff to collect systematically a great deal of important client information. Conducting structured interviews generally requires more extensive training, but the DIS, for example, was designed especially for non-mental health clinicians.

Programs should institute a procedure for reviewing initial client interviews conducted by non-mental health clinicians. This may involve team meetings that include a mental health clinician or case review under individual or small-group supervision.

Step 2: Screen for mental illness

Symptoms and signs of major mental illness may be readily apparent during the initial interview either because the client discloses them (e.g., "I'm very depressed" or "I'm afraid I'll hurt myself") or because the interviewer can observe them (e.g., the client is obviously hallucinating). Symptoms of mental illness may not be obvious, however, and programs should screen all clients for signs of illness. The Addiction Severity Index (ASI) is a widely used interview that, in addition to measuring the severity of drug and alcohol use, can help screen for mental illness. It asks about current symptoms (depression, anxiety, hallucinations, confusion, violent behavior, and suicidal ideas and attempts) and past episodes of mental illness and treatment. It also estimates the severity of such related problems as medical status, employment status, illegal activity, and family and social relations. The Problem Oriented Screening Instrument for Teenagers (POSIT) and the Adolescent Drug Abuse Diagnosis (ADAD) clinical interview are similar to the ASI but were designed for use with adolescents.

Programs may assign clients who show no symptoms of mental illness on the ASI, POSIT, or ADAD directly to drug abuse treatment. Although these instruments will detect most dually diagnosed clients, they may miss a small number. While mental illness may become apparent during drug treatment, it is wise to repeat the ASI, POSIT, or ADAD a few weeks into treatment to identify any overlooked mental health problems.

It is important to remember that the ASI, POSIT, and ADAD are not diagnostic tools nor even complete mental illness screening devices. For example, a client who truthfully tells an ASI interviewer that he or she "is not depressed," may nevertheless suffer from loss of interest, sleep difficulties, poor appetite, fatigue, guilt, and poor concentration—difficulties that indicate Major Depressive Disorder and which a psychiatric interview or the self-report questionnaires mentioned below can identify. Thus, when ASI responses fail to indicate mental illness, but the intake interviewer feels that further evaluation is required, clients should continue through the evaluation process.

Step 3: Rate symptom severity

Evidence of mental illness from the initial interview or screening instruments necessitates further evaluation. This involves rating the severity of mental symptoms, diagnosing mental disorders, and screening for problems in related areas.

A variety of symptom severity rating instruments are available. Some cover a wide range of mental symptoms while others focus on particular symptoms such as depression or anxiety. Clients can complete these questionnaires themselves, but staff must read them to clients who cannot read.

The Symptom Check List–90–Revised (SCL–90–R), the Profile of Mood States (POMS), the Brief Psychiatric Rating Scale (BPRS), and the General Health Questionnaire (GHQ) are all commonly used symptom severity rating instruments. They can be used to determine the presence and severity of symptoms associated with various psychopathologic states including anxiety, depression, and psychosis. Baseline scores can be compared to scores during and after treatment to determine change in symptoms. Although symptom severity rating scales cannot be used to provide diagnoses, they do afford a quick way to judge a client's current mental status and monitor progress in treatment.

Since depression is the most common disorder found among substance abusers, it is reasonable to administer a separate instrument that focuses on depressive symptoms, although the screening instruments described above can be used to assess depressive symptoms. The Beck Depression Inventory (BDI), the Center for Epidemiologic Studies Depression Scale (CES–D), the Zung Self-Rating Depression Scale (SDS), and Visual Analogue Scales are widely used to identify the key symptoms of depression and rate their severity. The Beck Hopelessness Scale (BHS) is appropriate for measuring change in suicidal ideation over time.

Anxiety is another common disorder among substance abusers. The SCL–90–R, POMS, BPRS, and GHQ all have items that deal with anxiety and can be used to identify and rate the severity of symptoms associated with Generalized Anxiety Disorder and Panic Attacks. The State-Trait Anxiety Inventory (STAI), Manifest Anxiety Scale (MAS), and Anxiety Status Inventory (ASI) are also available.

Step 4: Diagnose mental disorders

A mental health clinician or a trained non-mental health clinician can diagnose a mental disorder using a structured interview such as the SCID–I/P, the Schedule for Affective Disorders and Schizophrenia (SADS), the Present State Examination (PSE), or the DIS. These interviews will diagnose a wide range of mental disorders. A mental health clinician should administer the SCID–I/P, SADS, and PSE (and must receive additional training to correctly give and score them), while a non-mental health clinician can administer the DIS after appropriate training (Burke 1986). The various mental disorders to which figure 1 refers are those that would be cited on Axis I of the DSM–IV multiaxial classification. The Mood Disorders are most common

in substance abusers; relevant sections of these structured interviews can be used to assess them in depth. The Personality Disorders are those that would be cited on Axis II (see appendix B) (APA 1994).

The SCID-I/P and the DIS cover the diagnosis of Antisocial Personality Disorder, but Personality Disorders can be more thoroughly evaluated with the Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II)—a supplement to the SCID-I/P that both screens for and diagnoses the major DSM-IV Personality Disorders. Appendix A describes other available personality assessment devices.

Interviews entail greater cost than self-report questionnaires but provide more information: diagnoses of mental disorders, information on past episodes of mental illness and treatment, and severity ratings of individual symptoms. Interviews can often identify clients who might currently be free of mental illness but have had serious past psychiatric problems and are thus at risk of future problems. They can also identify clients who may have somewhat unusual presentations of mental disorders (e.g., loss of interest rather than a depressed mood).

Step 5: Screen related problem areas

In addition to mental health problems, substance abuse is often associated with cognitive impairment (Loberg 1986; Carlin 1986) and family, work, and social problems. Programs should ideally assess these areas in all clients, but at a minimum when the evaluation process identifies them as problems. Substance abuse may also be associated with serious medical illness: a complete medical history, examination, and appropriate laboratory tests are required (JCAHO 1990).

The Mini-Mental State (MMS) briefly screens for significant cognitive deficits. The Neurobehavioral Evaluation System 2 (NES2) and Assessment of Cognitive Skills (ACS) are more sensitive computerized neuropsychological test batteries that can detect less severe, but still important, problems. Although programs will miss some individuals with subtle deficits unless they screen all clients, they should at a minimum give a cognitive screening test to those who have difficulty providing a complete and logical history, maintaining attention, following directions, or understanding questions, instructions, or explanations or who show unusual behavior. A definitive cognitive evaluation requires testing by a neuropsychologist, who can also recommend treatment options, such as rehabilitation programs or strategies to compensate for specific deficits. Knowing a client's cognitive limitations will help drug treatment staff design more effective programs and set more realistic goals. For example, if a client has memory deficits, staff must repeat what they say, verify that he or she has understood it, and check that he or she remembers it.

We have included among the instruments a focused social adjustment rating scale, the Social Adjustment Scale—Self Report (SAS-SR), to emphasize the importance of identifying and monitoring maladjustment in work, family, and social life. Again, screening instruments such as the ASI assess these areas and will in many cases suffice to identify problems requiring

attention in treatment planning. Where social adjustment problems are severe enough to warrant special concern, the SAS-SR (or a related instrument) is a useful supplement.

The seriousness and frequency of medical problems among substance abusers—HIV infection and AIDS, hepatitis, endocarditis, pneumonia, meningitis, pancreatitis, and general debilitation—necessitates that a physician thoroughly examine each client entering a drug treatment program. These medical disorders are often associated with mental symptoms, which may be the first indication of a client's physical illness. JCAHO regulations require that a qualified physician examine clients in inpatient programs within 24 hours of admission (JCAHO 1990). Residential, partial-hospital, and outpatient programs must develop a written procedure in consultation with a physician for determining whether a physical examination is necessary (JCAHO 1990). They must refer any client with evidence of current or significant past medical illness for a full medical workup. The ASI, POSIT, and other screening instruments, as well as the SF-36 Health Status Survey (SF-36) and the Sickness Impact Profile (SIP), can determine current health problems and their impact in more detail; repeated administration will show change over time in physical symptoms and disability.

Step 6: Formulate treatment plan

The research literature has repeatedly emphasized, and the practical experience of drug treatment professionals has confirmed, the need to improve treatment outcomes by tailoring treatment to individual clients' specific needs (Kosten 1989). A thorough and comprehensive assessment serves to develop, for each client, an individualized, detailed treatment plan that addresses all identified problem areas. Effective treatment planning depends primarily on an accurate diagnosis. Only then will treatment match the client's individual needs. Major Depressive Disorder, for example, will usually respond to antidepressant medication, but a simple grief reaction probably will not. A client with Bipolar Disorder incorrectly diagnosed as Schizophrenia may be deprived of an effective treatment (lithium carbonate).

The JCAHO requires that inpatient or residential treatment programs complete treatment plans within 72 hours of admission, and partial-hospital and outpatient treatment programs upon completion of intake (JCAHO 1990). If no problems other than substance abuse are identified, staff can develop a substance abuse treatment plan and carry it out with usual program resources. When medical, mental health, and/or social problems are apparent, however, substance abuse treatment programs must either provide appropriate treatment themselves or arrange for it elsewhere. Some initial assessments will demonstrate a need for additional evaluation by specialists probably not on program staffs, such as neuropsychologists.

Drug treatment programs should thus establish strong working relationships with individuals or institutions who specialize in diagnosing and treating medical conditions, mental illness, cognitive impairment, and vocational and social problems. Some drug treatment programs have full- or part-time staff physicians, psychiatrists, doctoral-level psychologists, and/or clinical social workers on their full- or part-time staff, while others work with these and related professionals as case-by-case consultants. Programs should consult experts early in the

treatment planning process, as they can provide essential information about the kinds of programs available for specialized client needs and, where necessary, further evaluate clients. The earlier consultants become involved, the more useful they can be. They may, for example, help interpret the significance of a diagnostic interview or symptom severity rating, determine whether further evaluation is necessary, recommend particular treatment strategies, and advise how to obtain necessary evaluation and treatment. Given the complex diagnostic and treatment issues that dually diagnosed clients present, we encourage programs to use consultants as freely as resources allow.

Step 7: Conduct followup assessment

The JCAHO requires that programs reevaluate treatment plans at certain key points: before transfer or discharge, when the client's condition changes significantly, when he or she needs treatment for longer than had been foreseen, or after "every ten visits or every three months of outpatient care, whichever comes first . . . [or] every three months of inpatient, residential, or partial-hospital treatment" (JCAHO 1990). Followup assessment may include an openended client interview about changes he or she has made, plans for the future, and his or her attitude toward the treatment and its outcome. It may also include readministering such screening instruments as the ASI, POSIT, or ADAD or symptom severity rating scales and diagnostic interview sections (e.g., SCID-I/P or DIS). New scores on the screening and symptom severity rating scales will indicate whether baseline mental symptoms have resolved or diminished in intensity. Readministering the diagnostic interviews will show whether the client continues to meet criteria for a specific mental disorder.

Mental health assessment in different drug treatment settings

Application of the above approach to mental health assessment will vary with the treatment setting. Mental health assessment while a client undergoes detoxification is unreliable. A client who is intoxicated, experiencing withdrawal symptoms, or receiving psychotropic medication to manage withdrawal can give neither an accurate, complete history nor a dependable account of his or her current situation. Since the symptoms of both intoxication and withdrawal mimic symptoms of mental illness, correct diagnosis of an underlying mental disorder is impossible. Certainly, detoxification programs must assess patients to rule out life-threatening medical and behavioral problems. The above assessment approach is designed not for emergencies but to detect difficulties that do not result from a transient toxic state. Detoxification units should follow JCAHO guidelines that require that a qualified physician be responsible for assessing a client's health and complete a physical examination and laboratory determinations within 24 hours of admission (JCAHO 1990). Programs may then carry out the above approach after the client is completely detoxified and either symptom-free or stable on medication without evidence of central nervous system impairment (e.g., sedation, confusion, motor impairment, or autonomic instability). The purpose of mental health assessment is to determine the kinds of treatment services a client needs; it should thus precede discharge to ensure appropriate followup plans.

A thorough mental health assessment like that described above can be incorporated into the routine intake procedures of inpatient, residential, and outpatient substance abuse treatment programs. Inpatient and residential programs can more easily complete assessments quickly, of course, as clients are readily available. Hence, they can complete a roughly 3–5-hour assessment within 1–2 days of admission—and not waste valuable treatment time. The treatment planning team should meet as soon as possible after the assessment to develop specific plans and discuss these with the client within 48–72 hours of admission.

Outpatient assessments (of clients who must leave and return) will probably require two sessions, with a third to present a treatment plan to the client and initiate treatment. This can be done over 1–3 weeks. Staff can interview the client and administer screening instruments at the first session and devote the second to completing symptom severity rating scales and diagnostic interviews. Literate clients can complete rating scales at home and bring them to the second session. The treatment planning team can meet after the second session. When the client returns for the third session, a member of the team should discuss its recommendations. Ideally, this will be the primary caregiver, who can then begin treatment at that meeting.

Administrative issues

Incorporating the mental health assessment and treatment planning procedures outlined above should not be difficult or costly. Certain issues, however, will particularly concern program administrators who wish to do so. These include staffing requirements, training and administrative costs, and how to address staff concerns about mental health assessment.

As table 1 indicates, either mental health clinicians or non-mental health clinicians can perform the initial interview, which should take 30–60 minutes. After this, the staff member is responsible for ushering the client through the evaluation process: scheduling appointments, ensuring that all elements of the assessment are completed, answering questions, following up missed appointments, and arranging the team treatment planning conference—in short, serving as a liaison between client and treatment team and ensuring that the assessment process operates smoothly. If the team prefers, the intake person may also discuss its treatment recommendations with the client; the team may alternatively prefer to have the primary caregiver do so.

Non-mental health clinicians can administer and score the screening instruments (e.g., the ASI, POSIT, or ADAD), mental symptom severity rating scales, cognitive functioning and social adjustment instruments, and health questionnaires. Staff must be trained to do so, but this entails minimal time and costs—primarily fees for training services. A nonclinician can administer the DIS, but an experienced mental health clinician should administer the SCID-I/P (e.g., a clinical nurse, clinical social worker, psychologist, or psychiatrist). Both interviews require training to administer correctly. The detailed descriptions of the instruments in appendix A provide current training costs.

It takes 1–2 hours to administer a structured psychiatric diagnostic interview; costs depend on whether mental health clinician or non-mental health clinicians do so. Computerized

neuropsychological testing will also require about 1 staff-hour. Since literate clients can complete the symptom severity rating scales themselves, only scoring requires staff time—probably 1 hour at most even for several instruments. A physician should perform the medical examination if it is indicated; this should take one-half to 1 hour.

Instituting new procedures typically arouses some staff apprehension. Including staff in the transition as much as possible will facilitate the process of changing assessment methods. The more that staff at all levels feel that their concerns are attended to, their opinions valued, and their capabilities appreciated, the more eager they will be to learn innovative techniques and participate in change.

We recommend that program administrators include senior clinical staff—both mental health and substance abuse clinicians—from the very beginning and solicit their opinions about what areas of current mental health assessment need strengthening. Administrators should ask them to describe present practices and recommend specific changes. They should review the assessment procedures outlined above, discuss how they would fit with the program's current practices, and suggest any necessary modifications. Depending on senior staff expertise, they may develop inservice training programs in interviewing techniques and in administering and scoring assessment instruments. They may help develop the schedule for effecting the transition and may wish to recommend particular individuals to carry out various assessment components.

Administrators should keep junior clinical staff fully informed of the administrative and senior clinical staffs' work. They should explain that the current assessment procedures are being evaluated to determine how well they meet the needs of substance abuse clients with mental illness, and that change is likely, and that they will be fully trained in any new procedures. It is important to convey this information with enthusiasm for the innovations: all staff should feel that they will develop new skills, grow professionally, and learn to better serve their clients.

People with major mental illness, particularly the psychotic or destitute, induce intense feelings in others. Caregivers may fear them—particularly patients who are menacing or have a history of violence. Programs who treat such clients must institute safety procedures and train staff to follow them. Caregivers often feel profoundly helpless when faced with the many problems of the chronically mentally ill. It is essential to give all staff opportunities to talk about their feelings and have experienced mental health clinicians supervise their work; they may otherwise feel too discouraged to work effectively or may act out their feelings in various ways. For example, they may refer out dually diagnosed clients whom the program could treat or unconsciously facilitate their premature departure.

Clients with serious psychiatric difficulties—particularly personality disorders—often create dissension within the clinical staff. A client may relate to some staff members in a way that makes them feel that only they can work with, understand, or truly advocate for the needs of that client; other staff may come to feel animosity towards the client and see him or her as troublesome and their colleagues as beguiled. This splitting of the staff can lead to major interpersonal problems and will inevitably interfere with the client's treatment. Frequent staff

meetings to talk about clients and the feelings they arouse can forestall some of these difficulties and identify problems as soon as they arise.

Treatment, consultation, and referral

Combined psychiatric and drug abuse treatment may take many forms, depending on the client's problems and the program's resources. Whether psychiatric treatment occurs within the substance abuse treatment program or in other institutions depends primarily on the former's structure and resources. Ideally, both substance abuse and mental health treatment should be available in one place to enhance client compliance, facilitate collaboration among caregivers, and promote comprehensive care. Some programs, for example, can offer psychotherapy along with drug counselling because they have psychiatrists, psychologists, clinical social workers, and psychiatric nurses on staff; programs with psychiatrists can provide onsite psychopharmacologic evaluation and treatment. Programs without these professionals on staff must obtain mental health services outside the program.

Programs should obtain psychiatric consultation for any client with evidence of Schizophrenia or Major Depressive, Bipolar, Generalized Anxiety, Panic, or Posttraumatic Stress Disorders. Effective medications are available for all these disorders, and clients should be evaluated to determine whether medication would be useful. Indeed, whenever there is doubt about a diagnosis or concern about a client's mental status, a psychiatrist should be consulted.

Psychiatric day hospitals, half- and quarter-way houses, vocational rehabilitation programs, and general medical care facilities all have roles to play in treating substance abuse clients with mental illness or medical, social, and/or cognitive problems. Any evidence of medical problems on the initial assessment must prompt consultation with or referral to a physician to clarify the nature and severity of the problem and recommend or provide treatment. Similarly, if staff suspect cognitive impairment, they should consult a neuropsychologist. When more than one person is treating a client (either within or outside the program), they must, from the beginning, establish procedures for communicating and sharing information. It is essential to clarify different caregivers' roles and responsibilities and explain this carefully to the client.

Programs must also establish procedures for urgent psychiatric and medical consultation and treatment. Clients found on initial assessment to be acutely psychotic or suicidal may need immediate psychiatric hospitalization. Similarly, programs must refer clients with serious medical problems to a medical facility for evaluation and treatment. Procedures should be in place to obtain emergency care quickly and safely.

Summary

The diagnostic and treatment issues raised by people with combined substance abuse and mental illness increasingly concern both drug abuse and mental health clinicians and administrators. As increasing numbers of dually diagnosed clients seek help in drug treatment

programs, it is essential that these programs be able to diagnose mental disorders accurately and develop appropriate treatment plans. This report offers practical suggestions regarding assessment procedures and instruments that substance abuse clinicians can use to augment their ability to identify symptoms of mental illness and determine their nature and severity. It also outlines an approach to diagnostic evaluation and suggests specific instruments that will help practitioners accurately diagnose various mental disorders. Finally, the above process emphasizes the importance of viewing all clients from a multidisciplinary perspective and surveying the whole of their life circumstances—substance abuse, mental health, medical status, and work, family, and social functioning—in order to assess and treat them as comprehensively as possible. Instituting these procedures is not difficult and will enhance program staff competence and comfort in working with dually diagnosed clients.

SECTION 5

SUMMARIES OF ASSESSMENT INSTRUMENTS

This section briefly describes the assessment and diagnostic instruments in figure 1, *An Approach to Mental Health Assessment*. Appendix A describes these instruments in more detail and discusses how to obtain them as well as requirements for and restrictions on their use.

We used the criteria specified on page 28 above to select the instruments described here. There are alternatives to most of these instruments, however, that might better suit the needs of particular programs. This section notes these alternatives in the *Related Tests* section of each description; appendix A describes them more fully. This section first defines a set of descriptive categories and then uses them to summarily describe the following instruments:

Substance Abuse Screening and Severity Rating

Addiction Severity Index (ASI)

Problem Oriented Screening Instrument for Teenagers (POSIT)

Diagnosing Mental Disorders and Personality Disorders

Structured Clinical Interview for Axis I DSM-IV Disorders—Patient Edition (SCID-I/P)

National Institute for Mental Health (NIMH) Diagnostic Interview Schedule (DIS)

Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II)

Rating Symptom Severity

Symptom Checklist-90-Revised (SCL-90-R)

Beck Depression Inventory (BDI)

Beck Hopelessness Scale (BHS)

Spielberger State-Trait Anxiety Inventory (STAI)

Screening for Cognitive Impairment

Neurobehavioral Evaluation System 2 (NES2)

Mini-Mental State (MMS)

Screening for Social Adjustment

The Social Adjustment Scale-Self Report (SAS-SR)

Screening for Physical Symptoms

SF-36 Health Status Survey

Definitions

Developer	Name, address, and phone number of person(s) who designed and developed the instrument.
Contact Person	Name, address, and phone number of person(s) who distribute and/or answer questions about the instrument.
Description	Summary including why it was selected and what it may be used for.
Purpose	Primary purpose; e.g., diagnosis or screening, assessing a variety of symptoms or specific ones, cognitive assessment.
Content Areas	Subject matter covered; e.g., symptoms of depression or of anxiety, memory impairment, drug use history.
Population	Suitable populations; e.g., general population, intravenous drug users, alcoholics, adolescents. Availability in other languages.
Format	Self-administered questionnaire, structured or semistructured interview, or computer-adminstered test.
Training	Nature of training to administer and score: length, costs, and contact person.
Time	Time to administer.
Use	Comments on when to administer (e.g., intake, treatment, end-of-treatment, followup) and how to do so most effectively.
Scoring	Comments; e.g., is computerized scoring available, can non-clinicians do the scoring, are specialized interpretative skills needed (e.g., for cognitive assessment or for ambiguous responses).
Psychometrics	Reliability, validity. (Appendix C at page 145 discusses these terms.)
Norms	Populations for which researchers have established norms. (See appendix C.)
Strengths/Limitations	Including those specifically regarding drug treatment use.

Related Tests	Related or alternative tests covering the same material for slightly different purposes, at more or less cost, with greater ease of use, etc.
Availability	How to obtain, costs, purchase requirements (e.g., being a licensed clinician, reporting data to developer, etc.).

This report's reference list (see pp. 147–157 below) includes key references describing each instrument, its psychometric properties, and normative data for it.

Instrument	**Addiction Severity Index (ASI)**
Description & Purpose	The ASI rates the severity of seven key problem areas through 20–30 brief questions per area. It is a useful screening tool to identify problems and rate their severity and to guide treatment planning.
Content Areas	Drug use, alcohol use, medical status, employment status, illegal activity, family/social relations, and psychiatric condition for both lifetime and past 30 days.
Population	Adults not intoxicated at the time of administration. Available in Spanish.
Format	Structured interview.
Training	Training required. Nonclinicians may administer.
Time	45 minutes to interview and score.
Use	Administer at treatment entry to develop a client-specific treatment plan. Repeat throughout treatment to determine improvement or continued need for treatment.
Scoring	Severity ratings for seven problem areas and overall.
Psychometrics	Excellent interrater and test-retest reliability. Good validity.
Norms	Available for inpatient and outpatient drug and alcohol abusers.
Strengths & Limitations	Easy-to-use, broad-spectrum assessment; highly reliable and valid; useful for both treatment planning and outcome evaluation. Does not yield psychiatric diagnoses.
Related Tests	Michigan Alcoholism Screening Test (MAST) Individual Assessment Profile (IAP)

Instrument	**Problem Oriented Screening Instrument for Teenagers (POSIT)**
Description & Purpose	The POSIT is a self-administered screening test to identify adolescents' problems and treatment needs in ten areas, including substance abuse. It is used to develop treatment and referral plans and to complement a clinical diagnostic evaluation. The POSIT is part of the Adolescent Assessment/Referral System (AARS).
Content Areas	Substance use/abuse, physical health, mental health, family relations, peer relations, educational status, vocational status, social skills, leisure/recreation, aggressive behavior.
Population	Male and female adolescents (age 12–19); English- or Spanish-speaking.
Format	Self-administered questionnaire.
Training	Available through simple manual.
Time	15–20 minutes.
Use	Intake or other screening to identify treatment and service needs. Can be used in multiple contexts (schools, courts); not suited to measuring outcome or change.
Scoring	Additive scoring using "yes/no" templates yields independent scores for each content area.
Psychometrics	Validity tests are underway for the English version.
Norms	Currently being established for the English version.
Strengths & Limitations	Brief, easy to use, specific to adolescents; diagnosis requires other tests; requires some literacy.
Related Tests	Personal Experience Inventory (PEI) Adolescent Drug Abuse Diagnosis (ADAD) clinical interview

Instrument	**Structured Clinical Interview for Axis I DSM-IV Disorders—Patient Edition (SCID-I/P)**
Description & Purpose	The SCID-I/P is a semistructured, modular clinical interview that guides the interviewer to gather data to diagnose current and lifetime DSM-IV mental disorders. Separate versions are available for patient and nonpatient populations, intravenous drug users, veterans, and people with Anxiety Disorders, Schizophrenia, or HIV infection.
Content Areas	Can make current-episode and lifetime DSM-IV diagnoses for the following types of disorders: psychotic, mood, substance abuse, anxiety, somatoform (current only), eating, and adjustment. Gathers data on: demographics, past psychiatric illness(es) and treatment(s), physical health, medications and drugs, and social functioning. Contains Global Assessment of Functioning (GAF) Scale (see appendix B.4, page 143).
Population	Psychiatric and medical patients, substance abusers, children and adolescents, and general population. Can be tailored to clients with limited education or understanding. Available in German, Italian, and Japanese.
Format	Semistructured interview with scope for clinical modifications.
Training	Mental health clinicians with assessment and diagnostic skills should administer; requires additional training.
Time	1-1½ hours.
Use	Diagnostic interview for clinical or research settings; modifiable for use as a focused screening instrument; adaptable for use with special populations; can be used to make DSM-IV diagnoses at intake; can be administered during and after treatment to determine whether illness episode resolved.
Scoring	Presence and severity rating scores for disorders.
Psychometrics	Adequate interrater reliability for patients; less good for nonpatients. Unspecified validity.
Norms	Available for people with various mental disorders or with HIV infection and other medical illnesses, and for veterans.

Strengths & Limitations Good fit with mental health clinical interviewing style, but inappropriate for use by non-mental health clinicians. Flexible, adaptable format may limit reliability and validity for research.

Related Tests

Schedule for Affective Disorders and Schizophrenia (SADS)
Present State Examination (PSE)
National Institute of Mental Health (NIMH) Diagnostic Interview Schedule (DIS)

Instrument	**National Institute of Mental Health (NIMH) Diagnostic Interview Schedule (DIS)**
Description & Purpose	The DIS is a highly structured interview designed to diagnose mental disorders according to DSM–IV criteria in large-scale epidemiologic surveys of the general population or target populations (e.g., substance abuse treatment clients). Diagnoses lifetime and current (past 2 weeks, month, 6 months, or year) disorders; can assess change in symptoms over time.
Content Areas	Allows selected diagnoses for virtually all DSM–IV disorders, including Mood Disorders, Schizophrenia, Substance-Related, and Anxiety Disorders. Includes the Mini-Mental State (see pages 58, 113 below) to assess cognitive function; collects demographic data.
Population	Subjects over age 14 who can understand or respond to questions reliably. Available in Spanish, Portuguese, French, German, Chinese, Korean, Arabic, Greek, and Japanese.
Format	Highly structured interview for administration by nonclinicians.
Training	Requires training; extensive training materials available.
Time	1 hour.
Use	Administer at intake to establish diagnoses and throughout treatment to assess change.
Scoring	Manual scoring procedure and computerized scoring programs available to diagnose DSM–IV mental disorders.
Psychometrics	High clinician and lay interviewer concordance; high sensitivity, specificity, and reliability; good validity.
Norms	General population.
Strengths & Limitations	Most accurate in diagnosing current and severe disorders; without collateral information, room for inaccuracy makes research application more difficult. Nonclinicians can administer.
Related Tests	Structured Clinical Interview for Axis I DSM–IV Disorders—Patient Edition (SCID–I/P) Schedule for Affective Disorders and Schizophrenia (SADS) Present State Examination (PSE)

Instrument	**Structured Clinical Interview for DSM–IV Personality Disorders (SCID–II)**
Description & Purpose	The SCID–II is a semistructured interview designed to diagnose 12 DSM–IV Personality Disorders and generally administered with the SCID Personality Questionnaire and the SCID–I/P.
Content Areas	Assesses 12 Personality Disorders: Avoidant, Dependent, Obsessive-Compulsive, Passive-Aggressive, Self-Defeating, Paranoid, Schizotypal, Schizoid, Histrionic, Narcissistic, Borderline, and Antisocial.
Population	All populations.
Format	Client completes self-report screening questionnaire (SCID Personality Questionnaire); clinician then conducts semistructured interview.
Training	Mental health clinicians with diagnostic skills can administer; training video and manual available.
Time	Following SCID–I/P and self-report SCID Personality Questionnaire, interview requires 30–45 minutes. If the self-report section is not done, administering the SCID–II may take 1–1½ hours.
Use	Personality should only be assessed after episodes of acute illness have passed.
Scoring	Score sheet indicates whether a disorder is absent, present, or subthreshold-level and rates its current severity.
Psychometrics	Moderate to high correlation with multirater clinical diagnoses.
Norms	Available for patients with Panic Disorder and Major Depressive Disorder and for nonpatient samples.
Strengths & Limitations	The SCID–II is the most valid, reliable diagnostic instrument for personality disorders; the Personality Questionnaire is a good flag but is not diagnostic; a skilled clinician must conduct the interview.
Related Tests	Structured Interview for DSM–III Personality Disorders (SIDP) Personality Disorder Examination (PDE) Personality Diagnostic Questionnaire—Revised (PDQ) The Psychopathic State Inventory (PSI)

Millon Clinical Multiaxial Inventory–II (MCMI–II)
Minnesota Multiphasic Personality Inventory (MMPI)
Haertzen Sociopathy Scale

Instrument	**Symptom Checklist-90-Revised (SCL-90-R)**
Description & Purpose	The SCL-90-R is a self-report symptom inventory that measures the type and severity of symptoms of mental illness, both as an initial screen and to monitor outcome or symptom change.
Content Areas	Nine primary symptom dimensions: somatization, obsessive-compulsiveness, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. Three global indices: General Severity Index, Positive Symptom Total, and Positive Symptom Distress Index.
Population	Adolescents and adults of both sexes; available in 20 languages.
Format	Self-report checklist.
Training	No training to administer. Scoring and interpretation manual available.
Time	Approximately 15 minutes.
Use	Administer at intake and periodically to assess symptom changes.
Scoring	Symptom and global additive scores.
Psychometrics	Very good test-retest reliability; good clinical sensitivity; high validity.
Norms	Available for psychiatric outpatient and inpatient groups and adult nonpatient, adolescent nonpatient, and geriatric normals; profile data available for many special groups including substance abusers.
Strengths & Limitations	Brief, easy to use, and widely applicable; self-administration requires that clients be able to read.
Related Tests	Profile of Mood State (POMS) Brief Psychiatric Rating Scale (BPRS) General Health Questionnaire (GHQ)

Instrument	**Beck Depression Inventory (BDI)**
Description & Purpose	The BDI is a 21-item self-report symptom severity rating scale for depression. It assesses both the psychological and somatic aspects of depression and can measure symptom change over time. It is not a diagnostic instrument.
Content Areas	Twenty-one depressive symptom items: sadness, hopelessness, self-reproach, lack of interest or pleasure, guilt, feeling punished, self-hatred, self-criticism, suicidal ideas, crying, irritability, loss of interest, indecisiveness, feeling unattractive, inability to work, difficulty sleeping, fatigue, loss of appetite, weight loss, worry about physical problems, and loss of sexual interest.
Population	All populations.
Format	Self-administered for literate clients; can be read to others.
Training	None.
Time	Approximately 15 minutes.
Use	At intake, to screen for depressive symptoms; throughout and at end of treatment to assess symptom change.
Scoring	Simple, any staff member can perform.
Psychometrics	Good reliability; fair to good correlation with other instruments; good validity.
Norms	Available for substance abusers, psychiatric patients, medical inpatients and outpatients, normal healthy adults, cognitively impaired individuals, and many others.
Strengths & Limitations	Widely used, quick, easily administered and scored. Possible bias from somatic symptoms due to medical illness or substance abuse rather than depression. Self-administration may be obstacle for semiliterate individuals. Somewhat high false-negative rate.
Related Tests	Center for Epidemiologic Studies Depression Scale (CES-D) Zung Self-Rating Depression Scale (SDS) Visual Analogue Scales (VAS) Depression scales from SCL-90-R and POMS Hamilton Rating Scale for Depression

Instrument	**Beck Hopelessness Scale (BHS)**
Description & Purpose	The BHS is a 20-item true/false scale that measures hopelessness and negative expectations. Scores correlate highly with suicidal ideation.
Content Areas	Hopelessness.
Population	Literate adults.
Format	Self- or interviewer-administered questionnaire.
Training	None required.
Time	10 minutes.
Use	At intake and/or during treatment; can monitor change and status over time.
Scoring	Summary score for 20 true/false items.
Psychometrics	Correlates highly with clinical assessments; good validity.
Norms	General population, suicide attempters, and psychiatric patients; not available for substance abusers.
Strengths & Limitations	Quick, easy, reliable indirect indicator of suicidal risk; not normed on substance abusers.

Instrument	**Spielberger State-Trait Anxiety Inventory (STAI)**
Description & Purpose	The STAI is a self-report scale developed to measure two different types of anxiety, state anxiety and trait anxiety. Trait anxiety refers to stable personality characteristics and feelings a person "generally" has. State anxiety refers to transitory emotional states, a person's feeling "at a particular moment in time." Clients indicate on a four-point rating scale how they "generally" feel or how they feel "right now" in response to statements depicting various anxiety symptoms. The higher the score, the more intense the anxiety. The STAI does not diagnose anxiety disorders.
Content Areas	Statements cover all types of anxiety symptoms or their opposite (e.g., calmness, peacefulness).
Population	Both adults and adolescents.
Format	Self-administered questionnaire.
Training	None required.
Time	Approximately 15 minutes.
Use	At intake to assess severity of current anxiety symptoms and to determine anxiety-related personality characteristics; throughout and at end of treatment to assess change in anxiety symptoms.
Scoring	Handscoring keys available.
Psychometrics	Good reliability and validity.
Norms	Available on a wide range of groups.
Strengths & Limitations	Provides an easy, quick rating of anxiety symptoms and indicates how readily the client responds to situations with anxiety. Requires capacity to read and understand instructions and test items.
Related Tests	Anxiety Status Inventory (ASI) Self-Rating Anxiety Scale Taylor Manifest Anxiety Scale (TMAS) Subscales of the SCL–90–R, BPRS, and POMS Sections of the SCID–I/P, DIS, SADS, and PSE

Instrument	**Neurobehavioral Evaluation System 2 (NES2)**
Description & Purpose	The NES2 consists of several standardized neuropsychological tests administered and scored via computer. Clients self-administer the computerized tests with minimal staff assistance; the software generates scores and reports. Used to screen for cognititive impairments common among substance abusers; cannot be used to make psychiatric diagnoses.
Content Areas	Assesses 10 general content areas: reactivity, attention, perceptual motor function, perseveration, memory, visuospatial perception, calculation, conceptualization, reasoning, and estimated general intelligence.
Population	Any adult client who will use a computer.
Format	Self-administered computerized test with automatic scoring.
Training	Minimal training required for technician to train clients; self-guided instruction on computer screen.
Time	1 hour.
Use	At intake or during treatment to screen for need for more extensive testing by a neuropsychologist; initial explanation necessary but mostly self-guided.
Scoring	Automatic computer scoring; data file for each client.
Psychometrics	High overall reliability; good test-retest reliability; variable but good validity.
Norms	Available on non-substance-abusing populations.
Strengths & Limitations	Automation reduces bias and error, provides immediate feedback, and ensures uniform, standardized administration of stimuli and recording of responses; format well-accepted by clients. System runs on most PCs. Treatment program must have equipment and quiet, private location for testing.
Related Tests	Assessment of Cognitive Skills (ACS) (computerized)

Instrument	**Mini-Mental State (MMS)**
Description & Purpose	The MMS is a standardized screen for severe cognitive impairment and further testing needs; can assess ability to manage activities of daily living; cannot be used to diagnose.
Content Areas	The MMS screens for problems with orientation, short-term memory, attention, mental control, writing, reading, naming, understanding and following instructions, and copying figures.
Population	Any client.
Format	Structured interview and task performance.
Training	None for clinicians; minimal for nonclinicians.
Time	5–10 minutes.
Use	A screen to indicate the need for further neuropsychological testing; can monitor change in cognitive status.
Scoring	Simple arithmetic total.
Psychometrics	Very good interrater and test-retest reliability; good validity.
Norms	Available for normals, people with age-related dementia, and psychiatric patients with and without substance abuse and medical problems.
Strengths & Limitations	Brief, easy-to-use screen that indicates need for further evaluation but is neither highly specific nor sensitive; will indicate change in cognitive status over time; other factors may influence score (e.g., education, intoxification when tested).
Related Tests	Neuropsychological Screening Battery for Multiple Sclerosis Selected neuropsychological tests

Instrument	**Social Adjustment Scale—Self Report (SAS-SR)**
Description & Purpose	The SAS-SR is a self-administered questionnaire that measures affective and instrumental performance in occupational roles, social activities, relations with spouse, parents, and children, and economic independence. The SAS-SR is useful at intake to guide intervention and psychosocial treatment and throughout treatment to assess change.
Content Areas	Objective and perceived functioning in occupational role (worker, housewife, or student), marital role, extended family, parental role, family unit, social and leisure activities, and economic independence.
Population	Inpatient or outpatient adults.
Format	Self-administered questionnaire.
Training	None to administer; scoring follows precoded questionnaire.
Use	Administer at intake and throughout treatment to assess change.
Scoring	Handscored.
Psychometrics	High test-retest reliability; good validity.
Norms	Nonpatient community samples, alcoholics, methadone maintenance clients, and depressed individuals.
Strengths & Limitations	Easy to use, brief, highly sensitive to change over time with depressed patients; measures both subjective and objective aspects and inner feelings. Requires literate clients.
Related Tests	Self-Assessment Guide

Instrument	**SF-36 Health Status Survey**
Description & Purpose	The SF-36 is a short, self-administered instrument that measures health and social functioning in population surveys and health services research. It is no substitute for a physician-performed medical history and examination and does not specifically address the kinds of health conditions found among drug users.
Content Areas	SF-36 measures eight health concepts (physical functioning, social functioning, role limitations attributed to physical or emotional problems, mental health, energy/fatigue, pain, and general health perception), which are grouped into three major health attributes (functional status, wellbeing, and overall health evaluation).
Population	Persons over age 13.
Format	Self-administered or effective in personal or telephone interview.
Training	None to administer. Users' manual and instructions to patient provide full information on coding, scoring, and self-administration.
Time	5-10 minutes.
Use	Appropriate for assessing perceived general health status and monitoring it over time. Not an alternative to a physician's assessment.
Scoring	Eight health score profiles and three summary indices.
Psychometrics	High reliability and validity.
Norms	Patients and general population.
Strengths & Limitations	Brief, easy to use. Does not assess specific drug-related illnesses.
Related Tests	Sickness Impact Profile (SIP)

APPENDIX A

DETAILED DESCRIPTIONS OF ASSESSMENT INSTRUMENTS

Appendix A describes in detail the instruments named in figure 1 and described briefly in section 5. The descriptions follow a standardized format. As indicated earlier, we chose these instruments because they met certain criteria. However, other instruments could accomplish the same purpose and might better suit a particular program's needs or be more familiar to its staff. We describe these in less detail under *Related Instruments*. The instruments are listed below and their characteristics are summarized in table 2. Alternative instruments are listed below in brackets.

Substance Abuse Screening and Severity Rating

Addiction Severity Index (ASI)
[Michigan Alcoholism Screening Test (MST); Individual Assessment Profile (IAP)]
Problem Oriented Screening Instrument for Teenagers (POSIT)
[Adolescent Drug Abuse Diagnosis (ADAD) clinical interview]

Diagnosing Mental Disorders and Personality Disorders

Structured Clinical Interview for Axis I DSM-IV Disorders-Patient Edition (SCID-I/P)
[Schedule for Affective Disorders and Schizophrenia (SADS); Present State Examination (PSE)]
National Institute for Mental Health (NIMH) Diagnostic Interview Schedule (DIS)
Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II)
[Million Clinical Multiaxial Inventory (MCMI); Haertzen Psychopathic State Inventory (PSI); Minnesota Multiphase Personality Inventory (MMPI)]

Rating Symptom Severity

Symptom Checklist-90-Revised (SCL-90-R)
[Profile of Mood States (POMS); Brief Psychiatric Rating Scale (BPRS); and General Health Questionnaire (GHQ)]
Beck Depression Inventory (BDI)
[Center for Epidemiologic Studies Depression Scale (CES-D); Zung Self-Rating Depression Scale (SDS); and Visual Analogue Scales (VAS)]
Beck Hopelessness Scale (BHS)
Spielberger State-Trait Anxiety Inventory (STAI)
[Anxiety Status Inventory (ASI); Self-Rating Anxiety Scale (SAS); and Taylor Manifest Anxiety Scale (TMAS)]

Screening for Cognitive Impairment

Neurobehavioral Evaluation System 2 (NES2)
[Assessment of Cognitive Skills (ACS)]
Mini-Mental State (MMS)
[Neuropsychological Screening Battery for Multiple Sclerosis; Selected Neuropsychological Tests]

Screening for Social Adjustment

Social Adjustment Scale—Self Report (SAS-SR)

Screening for Physical Symptoms

SF-36 Health Status Survey
[Sickness Impact Profile (SIP)]

Table 2. Summary of Assessment Instruments

	Diagnosis	Symptom Severity Rating	Severity of Drug Use	Severity of Alcohol Use	DSM-IV* Depressive Disorders	DSM-IV* Anxiety Disorders	DSM-IV* Psychotic Disorders	DSM-IV* Somatoform Disorders	DSM-IV* Personality Disorders	Other DSM-IV* Disorders	Depressive Symptoms	Anxiety Symptoms	Psychotic Symptoms	Other Symptoms	Other Personality Disorders	Psychiatric History	Cognitive Functioning	Employment Status	Illegal Activity	Family/Social Relations	Medical Status	Time (in minutes)	Training Required	Interview	Self-administered	Page Number
Addiction Severity Index (ASI)		X	X	X								X	X	X		X		X	X	X	X	45	X	X		68
Adolescent Drug Abuse Diagnosis (ADAD)		X	X	X							X	X	X	X		X		X	X	X	X	45	X	X		74
Anxiety Status Inventory		X										X										15	X	X		68
Assessment of Cognitive Skills (ACS)		X															X					60			X	110
Beck Hopelessness Scale (BHS)		X									X			X								10			X	101
Beck Depression Inventory (BDI)		X									X											15			X	96
Brief Psychiatric Rating Scale (BPRS)		X									X	X	X	X								5		X		94
Center for Epidemiologic Studies Depression Scale (CES-D)		X									X											15			X	98
Comprehensive Assessment Battery (CAB)	X		X	X							X	X	X	X		X		X	X	X			X	X		72
Diagnostic Interview Schedule (DIS)	X		X	X	X	X	X	X	X	X	X	X	X	X		X	X	X				60	X	X		82
General Health Questionnaire (GHQ)		X									X	X		X								20			X	94
Global Assessment of Functioning Scale (GAF)		X									X	X	X	X	X		X	X		X		5		X		143
Haertzen Sociopathy Scale		X												X	X							30			X	88
Individual Assessment Profile (IAP)		X	X	X							X	X	X	X		X						60	X	X		70

* or DSM-III-R

Table 2. Summary of Assessment Instruments (Continued)

	Diagnosis	Symptom Severity Rating	Severity of Drug Use	Severity of Alcohol Use	DSM-IV* Depressive Disorders	DSM-IV* Anxiety Disorders	DSM-IV* Psychotic Disorders	DSM-IV* Somatoform Disorders	DSM-IV* Personality Disorders	Other DSM-IV* Disorders	Depressive Symptoms	Anxiety Symptoms	Psychotic Symptoms	Other Symptoms	Other Personality Disorders	Psychiatric History	Cognitive Functioning	Employment Status	Illegal Activity	Family/Social Relations	Medical Status	Time (in minutes)	Training Required	Interview	Self-administered	Page Number
Michigan Alcoholism Screening Test (MAST)		X		X														X		X		30		X		70
Millon Clinical Multiaxial Inventory (MCMI)	X				X	X	X	X	X	X															X	88
Mini-Mental State (MMS)		X															X					15		X		113
Minnesota Multiphasic Personality Inventory (MMPI)											X	X	X	X	X							60			X	89
Neurobehavioral Evaluation System 2 (NES2)		X															X					60			X	108
Neuropsychological Screening Battery for Multiple Sclerosis		X															X					30	X	X		115
Personal Experience Inventory (PEI)			X	X										X						X		45			X	73
Present State Examination (PSE)	X				X	X	X	X	X	X	X	X	X	X								60	X	X		81
Problem Oriented Screening Instrument for Teenagers (POSIT)		X	X	X							X	X	X	X				X	X	X	X	20			X	72
Profile of Mood States (POMS)		X									X	X	X	X								10			X	93
Schedule for Affective Disorders and Schizophrenia (SADS)	X		X	X	X	X	X	X	X	X	X	X	X	X		X						60-90	X	X		80
Self-Assessment Guide														X				X		X	X	15			X	121
Self-Rating Anxiety Scale		X										X										15			X	104

Table 2. Summary of Assessment Instruments (Continued)

	Diagnosis	Symptom Severity Rating	Severity of Drug Use	Severity of Alcohol Use	DSM-IV* Depressive Disorders	DSM-IV* Anxiety Disorders	DSM-IV* Psychotic Disorders	DSM-IV* Somatoform Disorders	DSM-IV* Personality Disorders	Other DSM-IV* Disorders	Depressive Symptoms	Anxiety Symptoms	Psychotic Symptoms	Other Symptoms	Other Personality Disorders	Psychiatric History	Cognitive Functioning	Employment Status	Illegal Activity	Family/Social Relations	Medical Status	Time (in minutes)	Training Required	Interview	Self-administered	Page Number
Selected neuropsychological tests	X																X					60	X	X		117
SF-36 Short-Form Health Status Survey (SF-36)		X												X							X	10			X	124
Sickness Impact Profile (SIP)		X									X	X	X	X			X	X			X	30			X	125
Social Adjustment Scale—Self-Report (SAS-SR)		X																X		X		15			X	120
Spielberger State-Trait Anxiety Inventory (STAI)		X										X										15			X	103
Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II)	X								X													60	X	X	X	86
Structured Clinical Interview for Axis I DSM-IV Disorders—Patient Edition (SCID-I/P)	X		X	X	X	X	X	X	X	X	X	X	X	X		X						60	X	X		76
Symptom Checklist-90-Revised (SCL-90-R) and Brief Symptom Inventory		X									X	X	X	X								15			X	92
Taylor Manifest Anxiety Scale		X										X										30			X	104
Visual Analogue Scale (VAS)		X									X	X		X								1			X	99
Zung Self-Rating Depression Scale (SDS)		X									X											15			X	98

* or DSM-III-R

Substance Abuse Screening and Severity Rating

This section describes instruments that demonstrate the presence and rate the severity of substance abuse problems in adults and teenagers. Both the ASI and POSIT, as well as the related instruments, look beyond current and past substance use to problems that result from it. Hence, they evaluate physical health, mental health, family and peer relations, illegal activities, and functioning in work, school, family, and social and leisure activities. They identify clients whose problems require further evaluation and who may need medical, mental health, and social or vocational treatment in addition to traditional drug abuse treatment.

Instrument **Addiction Severity Index (ASI)**

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Description

The **Addiction Severity Index (ASI)** is one of the most widely used screening instruments in drug treatment and research (McLellan et al. 1988). Although not specifically designed to screen for mental illness, it does briefly assess psychiatric status.

The multidimensional ASI uses a structured, 35-45 minute interview to determine the severity of key problem areas: medical condition, drug and alcohol use, illegal activity, family relations, employment, and psychiatric condition. It asks 20-30 questions about the history of each problem and its frequency in the past 30 days, and both interviewer and client rate its severity; subscale scores and a composite score result. Severity is defined as the need for additional treatment and operationalized in objective signs (frequency or duration of a problem) and subjective reports. Subscale scores can guide treatment planning; both subscale and composite scores can monitor improvement over time. The 13-item Psychiatric Status subscale covers lifetime and current episodes of serious suicidal ideation, depression, anxiety, psychosis, and violence.

Purpose

The ASI is most useful as a general intake screening tool. It effectively assesses a client's status in several areas, and the composite score measures how a client's need for treatment changes over time. The Psychiatric Status subscale has proven an excellent predictor of treatment outcome. The ASI is not suitable for adolescents. (See POSIT.) For reliable results, trained personnel must administer it. We should reinforce that the ASI screens for psychiatric problems and is *not* a diagnostic tool.

Content Areas

The ASI covers both lifetime prevalence and current functioning (past 30 days) for the following seven problem areas: drug use, alcohol use, medical status, employment status, illegal activity, family/social relations, and psychiatric status.

Population

Designed for adults of both sexes who are not intoxicated (drugs or alcohol) when interviewed. Also available in Spanish.

Format

Structured interview.

Training

Not required to administer the ASI, but necessary for greatest reliability of results. In addition to training sessions, NIDA offers a videotape and user's manual. (See *Availability* below.)

Time

Approximately 45 minutes to conduct and score.

Use

Counsellors or intake personnel can give the ASI at intake and use it to develop a client-specific treatment plan. Scoring should immediately follow the interview. The ASI can be repeated at various times throughout treatment; comparing scores will indicate improvement or the need to continue treatment in particular areas. The ASI does not collect information regarding HIV risk, requiring supplemental questions about this important issue.

Scoring

Scoring is based on responses to the objective and subjective questions in each of the seven areas. Interviewers follow a two-step process: first, score the objective data, paying special attention to identified critical questions, and make a preliminary rating; second, modify these scores in terms of the client's subjective severity rating and develop a final severity rating. Accurate scoring is one of the most important areas that interviewer training covers.

Psychometrics

Many studies have established the ASI's reliability with a variety of populations. The developers have shown excellent agreement among interviewers (interrater reliability on the subscales of .84–.93; overall, .89); test-retest reliability is .92 and above.

Validity tests of the subscales have shown them to correlate highly with such comparible tests as the Cornell Medical Index, Estes Employability Scale, Michigan Alcoholism Screening Test (MAST), and Gunderson Drug Use Scale. The Psychiatric Status subscale correlates highly with the SCL–90–R.

Norms

The ASI has been used with male and female drug and alcohol abusers in both inpatient and outpatient settings. It is not suitable for elderly patients (particularly those with concurrent cognitive impairment from alcoholism); younger, more sociopathic patients; and patients under age 16 who attend school and live with their parents.

Strengths & Limitations

Strengths include ease of use, broad-spectrum assessment, high reliability and validity, and utility for both treatment planning and outcome evaluation. It cannot be used to diagnose mental disorders.

Related Tests

Since the ASI subscales represent numerous different substantive areas, there are many related tests. Some include the **Michigan Alcoholism Screening Test (MAST)** and the **Individual Assessment Profile (IAP)**. The MAST is a formal, reliable, 25-item interview concerning alcohol-related behavior (Powers and Spickard 1984; Selzer 1971). Many of its items evaluate complications of alcoholism and the patient's perceptions about his or her drinking. The Short MAST (SMAST) is a shorter (13-item) self-administered version (Selzer et al. 1975). Either version can assess comorbidity of alcoholism with other diagnoses of mental illness.

The IAP is a 45–60-minute diagnostic interview that includes ASI elements but gathers more detailed psychiatric data. Several large-scale treatment outcome research studies currently using it will fully test its reliability and validity. Administration requires training. It is available through NCADI (phone 800-729-6686).

Availability

NIDA has developed a technology transfer package on using the ASI for clinical assessment and treatment planning, available from the National Clearinghouse for Alcohol and Drug Information (NCADI) ([800] 729-6686, Order Number NCADI #BKD122). The package includes a detailed resource manual, which provides an item-by-item discussion of the instrument, including suggestions for adapting it to address cultural and gender issues, instructions for calculating severity scores, and interviewing tips; a two-volume training videotape demonstrating use of the ASI, which covers the seven problem areas assessed in the standard interview, as well as supplemental questions that may be asked of women; a facilitator's guide that suggests exercises and ways to use the videotapes and other materials for clinical directors to train staff to use the ASI; and a handbook explaining to administrators how best to use the ASI in their programs. Together, the facilitator's guide, training videotapes, and resource manual constitute an inservice training program designed not to require outside technical experts' assistance. NIDA has approved its use for training clinicians to use the ASI to assess clients and as a basis for treatment planning.

NIDA recommends that programs wishing to use the ASI for research studies and program evaluation obtain training for staff who

will administer the instrument for research applications. For information about alternative training programs, contact:

Ian Fureman
Department of Psychiatry
3900 Chestnut Street
Philadelphia PA 19104
(214) 823-5600, extension 4144.

Instrument	**Problem Oriented Screening Instrument for Teenagers (POSIT)**
Developers	NIDA
Contact	Elizabeth Rahdert, Ph.D. NIDA Room 10A-30 5600 Fishers Lane Rockville MD 20857 (301) 443-4060
Description	The **Problem Oriented Screening Instrument for Teenagers (POSIT)** was developed by a panel of expert clinicians as part of the extensive Adolescent Assessment/Referral System (AARS) for use with 12-19-year-olds (Rahdert 1991). The AARS has three assessment components—the POSIT, a Client Personal History Questionnaire (CPHQ), and the Comprehensive Assessment Battery (CAB)—and a Directory of Adolescent Services (Directory). The AARS was designed to identify problems in ten areas including substance abuse, health, mental status, and social relations. The POSIT identifies problems requiring further assessment via the CAB. The POSIT is a self-administered set of 139 yes/no questions. It gives points for responses in each area; cutoff scores have been established to indicate the need for further assessment with relevant instruments in the CAB. Some individual items are age-specific and scored differently (Henly and Winters 1989).
Purpose	The POSIT is intended to briefly assess or screen clients. Full diagnostic evaluations require the CAB companion battery of instruments. The POSIT is useful for developing treatment and referral plans for adolescents. The conservative scoring system may rate people as more impaired than they actually are. The developers intended this, however, so as to include as many adolescents in need as possible.
Content Areas	The POSIT develops independent scores for each of ten functional areas: substance use/abuse, physical health, mental health, family relations, peer relations, educational status, vocational status, social skills, leisure/recreation, and aggressive behavior and delinquency.
Population	The POSIT is designed for use with male and female adolescents aged 12-19. Some age-related questions are scored only for respondents over 16. It is available in English and Spanish.
Format	Self-administered questionnaire.

Training The straightforward manual provides scoring templates. Nonclinicians may administer and score the POSIT.

Time 15–20 minutes.

Use School personnel, parents, courts, and health care providers can use the POSIT to identify adolescents who need treatment and other services. It is not designed to measure change or outcome.

Scoring Scoring uses templates available for both English and Spanish versions. Scorers add scores in each category to obtain final scores. Some items are not scored for adolescents under 16. Scores beyond preestablished cutoffs indicate a need for additional help and/or diagnostic assessment.

Psychometrics Tests of discriminant and concurrent validity are currently underway for the English version (Rahdert, personal communication).

Norms The Pacific Institute is conducting fieldwork for NIDA that will establish norms on the English version. Courts, schools, medical centers, and drug treatment programs currently use the POSIT.

Strengths & Limitations The POSIT is brief and easy to use and addresses problems specific to adolescents. It is not a diagnostic instrument; full assessment requires additional tests. It requires some literacy.

Related Tests The **Personal Experience Inventory (PEI)** (Winters and Henly 1989) is an alternative comprehensive assessment instrument in a self-report format written at 6th-grade reading level. Its 33 scales have been normed on both general high school and adolescent treatment populations. Its two parts (chemical use problem severity and psychosocial risk factors) take a total of 40–50 minutes. The problem severity section deals with drug-related behaviors such as loss of control, social consequences, and personal consequences. The psychosocial section measures personal factors such as negative self-image and peer drug use. The PEI can indicate a need for treatment but cannot make psychiatric diagnoses. It is self-administered and requires no training. Validity and reliability are both adequate. Computerized scoring can be done onsite or by mailing questionnaires to the developers.

The structured **Adolescent Diagnostic Interview** gathers data to make DSM–III–R diagnoses of psychoactive substance abuse disorders. Available with the PEI, it can also screen for other mental disorders and some cognitive impairments and rate a client's

level of functioning and the severity of his or her psychosocial stressors.

The **Adolescent Drug Abuse Diagnosis (ADAD)** is a comprehensive 150-item structured interview that identifies and rates the severity of problems in nine areas, including drug and alcohol use, mental status and health status, work and school, and family and social relations. Modelled on the ASI, it can be used at intake to plan treatment and during and after treatment to determine outcome. It also measures clients' motivation for treatment. Interviews take 45 minutes; a 1-day training session to conduct them is recommended. Normative data are available for adolescents in outpatient, residential, and inpatient drug treatment. Interrater and test-retestability are good and concurrent validity is adequate for all but two problem areas (medical and social). An 83-item short form is available for followup and treatment outcome evaluation.

Availability

The National Clearinghouse for Alcohol and Drug Information (NCADI) offers the **AARS** (NIDA 1991; DHHS Pub. No. [ADM]91-1735), which contains the POSIT, free of charge:

NCADI
PO Box 2345
Rockville MD 20847-2345
(800) 729-6686.

Diagnosing Mental Disorders and Personality Disorders

This section reviews structured and semistructured interviews used to diagnose the full range of mental disorders according to DSM–IV or related diagnostic criteria. They include instruments for diagnosing mental disorders (as specified on Axis I of the DSM–IV multiaxial assessment system) and Personality Disorders (as specified on Axis II). Diagnostic interviews are the only way to establish whether a specific mental disorder is currently, or has previously been, present. Accurately identifying a current mental disorder is a prerequisite for treatment planning. For example, a substance-abusing client with current Major Depressive Disorder will most likely require medication, and perhaps psychiatric hospitalization, along with psychotherapy and drug counselling; without such treatment, drug counselling alone may fail. If a mental disorder is not identified as current but is shown to have once been present, treatment planning should take into account the risk of recurrence and suggest the need for more careful, longer treatment and client education about the risk of recurrence. Similarly, the presence of a specific Personality Disorder should inform treatment decisions. In many cases, clients with Personality Disorders will benefit from psychotherapy, and caregivers will better anticipate potential treatment problems such as impulsive discontinuation or conflict within the treatment team.

Instrument

Structured Clinical Interview for Axis I DSM–IV Disorders-Patient Edition (SCID–I/P)

Developer

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Description

The **Structured Clinical Interview for Axis I DSM–IV Disorders-Patient Edition (SCID–I/P)** (Spitzer et al. in press[a]; Spitzer et al. in press[b]) is semistructured to guide the interviewer in gathering data to diagnose DSM–IV mental disorders. Its modular form reflects the major DSM–IV diagnostic categories and enables interviewers to give either the whole interview or only portions, depending on their interests. The interviewer follows the SCID–I/P outline but is encouraged to adapt it to the client, rephrasing questions to meet the client's level of understanding or clarifying or challenging responses to ensure accuracy. The SCID–I/P is, in essence, a clinical interview, in that it gathers data logically to test specific diagnostic hypotheses; if the responses indicate that a particular diagnosis is not relevant, the interviewer skips to another diagnosis-specific set of questions. This keeps the interview relevant to the individual client and often shorter than less focused interview schedules.

The SCID–I/P presents structured questions and comments along with the relevant DSM–IV criteria to give the interviewer context; he or she may ask additional questions or request more information. The interviewer circles one of four numbers on the interview schedule to indicate that the symptom: (1) is absent, (2) nearly meets the threshold for the DMS-IV criterion, (3) meets the criterion, or (4) does not admit of a diagnostic decision because of insufficient information. The interviewer transcribes these scores onto a scoresheet to construct a record of the presence or absence of various disorders and, in some cases, of subtypes and severity levels. Diagnoses are specified both for the current episode (past month) and for the client's lifetime.

The SCID-I/P also obtains information about demographics (age, gender, marital status, household composition, and school and employment history), the chief complaint, the history of the present illness and of previous episodes of mental illness, treatments received, current physical health, medication and drug use, and social functioning. These questions permit the interviewer to determine the presence of Axis III diagnoses (general medical conditions) and specify the overall level of functioning (Axis V, Global Assessment of Functioning Scale).

A separate interview schedule, the SCID-II, assesses Personality Disorders. (See page 86 below.)

Interviewers are expected to use sources of information in addition to the interview, including clinic or hospital records, family interviews, and staff observations.

Other versions of the SCID-I/P are the SCID-P W/PSY SCREEN (SCID-I/P-P with psychotic screen) for populations in which psychotic disorders are considered rare; and SCID-NP (Nonpatient), for people not primarily identified as psychiatric patients—i.e., subjects in studies of community populations or of people with medical illnesses. Special formats also exist for particular populations including intravenous drug-users, veterans, and people with Anxiety Disorders, Schizophrenia, or HIV infection.

Purpose

The SCID-I/P is used to diagnose a wide range of DSM-IV psychiatric disorders in both clinical and research settings and can be adapted to the needs of special populations or research objectives.

Content Areas

The SCID-I/P can provide diagnoses for the current episode and over a person's lifetime for the DSM-IV disorders listed below. Each diagnosis records age at onset, time since last symptoms, and the amount of time in the past 5 years that symptoms were present. Appendix B.2 (page 128 below) presents the criteria for many of these disorders.

Psychotic Disorders. Schizophrenia and Schizophreniform Disorder, Schizoaffective Disorder, Delusional Disorder, Brief Psychotic Disorder, and Psychotic Disorder Not Otherwise Specified.

Mood Disorders. Bipolar Disorder, Major Depressive Disorder, Dysthymic Disorder, and Cyclothymic Disorders, Bipolar Disorder Not Otherwise Specified, Depressive Disorder Not Otherwise Specified.

Substance-Related Disorders. Alcohol, Sedatives/Hypnotics/Anxiolytics, Cannabis, Stimulants, Opioids, Cocaine, Hallucinogens/PCP, Polysubstance, and Other Substances.

Anxiety Disorders. Panic Disorder, Agoraphobia Without History of Panic Disorder, Social Phobia, Simple Phobia, Obsessive-Compulsive Disorder, and Generalized Anxiety Disorder (current only).

Somatoform Disorders (current only). Somatization Disorder, Pain Disorder, Undifferentiated Somatoform Disorder and Hypochondriasis.

Eating Disorders. Anorexia Nervosa and Bulimia Nervosa.

Adjustment Disorder. (current episode only).

An optional module covers ***Posttraumatic Stress Disorder.***

The SCID-I/P does not evaluate the following categories of DSM-IV diagnoses: Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence; Delirium, Dementia, and Amnestic and Other Cognitive Disorders; and Dissociative, Sexual, Sleep, Factitious, and Impulse-Control Disorders.

The SCID-I/P also includes the Global Assessment of Functioning Scale (DSM-IV Axis V), a global interviewer rating of the client's level of psychological, social, and occupational functioning.

Population

All populations including psychiatric and medical patients, substance abusers, and the general population (SCID-NP). Interviewers can tailor questions and interview format to clients with limited education or understanding or modify the SCID-I/P for use with adolescents. It is available in German, Italian, and Japanese.

Format

The SCID-I/P is a semistructured interview with scope for the interviewer to make clinical modifications.

Training

Mental health clinicians who could otherwise conduct a psychiatric interview and make psychiatric diagnoses (psychiatrists, psychologists, psychiatric nurses, or clinical social workers) should ideally administer the SCID-I/P. Clinicians with less mental health knowledge, skill, and experience may learn to use the SCID-I/P but will require more time and training. All interviewers should be familiar with DSM-IV diagnostic criteria. The New York State

Psychiatric Institute offers onsite training at $100 per hour (Gibbon et al. 1981). Videotape training materials cost $300 and include 8-½ hours of instruction and numerous videotaped interviews. A user's guide is available with the interview schedule (Spitzer et al. 1990), as are case vignettes with completed SCID-I/P modules.

Time

Approximately 1-1½ hours.

Use

Numerous important elements make the SCID-I/P useful for drug treatment settings. Although it is a diagnostic interview, it allows interviwers to skip questions and thus make it a briefer, more focused screening instrument. The SCID-I/P can be adapted to special populations by adding questions and emphasizing particular modules.

The SCID-I/P can be used for both clinical and research purposes. In clinical settings, the SCID-I/P can be used at intake to ensure that all clients routinely receive accurate DSM-IV diagnoses. This will rule out certain diagnoses and identify others. It can also be administered during and after treatment to determine whether an episode of illness has resolved; since they do not again assess lifetime disorders, reinterviews are briefer than the initial interview. The SCID-I/P will guide less experienced clinicians in their interview technique and diagnostic judgments.

In research settings, interviewers should conduct joint interviews and compare their styles and ratings to ensure uniformity (interrater reliability). Different interviewers should assess the same subjects a few days apart to determine test-retest reliability.

Scoring

The score sheet indicates whether a disorder is absent, possibly present (subthreshold), or present (threshold for criterion met). For some disorders, the score sheet describes severity and certain clinical features (e.g., it indicates whether a Major Depressive Episode is mild; moderate; or severe, without psychotic features, with mood-congruent psychotic features, or with mood-incongruent psychotic features).

Psychometrics

The SCID-I/P's interrater reliability (by the two-rater method in which two clinicians independently interview the same patient and compare judgments) is adequate for patients (.61 for current diagnosis, .68 for lifetime diagnoses) but less good for nonpatients (.37 for current diagnosis, .51 for lifetime). These values are comparable to those of other structured diagnostic instruments (Spitzer et al. in press). Validity has not been specified.

Norms

Many studies have used the SCID-I/P, making data available on people with a variety of psychiatric disorders (Williams et al. in press; Schooler et al. 1989; Ballenger et al. 1988; Lesser et al. 1988; Pitman et al. 1989). It has been used with people with HIV infection (Williams et al. 1991) and other medical illnesses, veterans, and substance abusers (Buydens-Branchey et al. 1989).

Strengths & Limitations

The SCID-I/P will fit in nicely with the usual activities of drug treatment staff. Essentially a clinical interview, it will be familiar to mental health clinicians and probably not increase the time they usually spend evaluating clients. Because it approximates the hypothesis-testing approach clinicians typically use when talking with clients, it does not make them feel as constrained as do very structured interviews. Indeed, since it expects clinicians to explore responses in depth, it generates more complete data and more accurate diagnoses than more superficial instruments. Its modular format and skipouts keep the interview focused and relatively brief. Unfortunately, the autonomy it gives clinicians reduces diagnostic reliability and validity. For example, an interviewer may skip a set of questions because a client has not disclosed a symptom; while this is a problem for all interviews, the repetitive nature of more structured interviews, such as the DIS, make them more likely to obtain this information at some point. Variations in interviewer style and skill also reduce reliability, and the SCID-I/P allows more latitude for an individual's (possibly incorrect) diagnostic judgment than do more structured interviews.

Related Tests

The **Schedule for Affective Disorders and Schizophrenia (SADS)** (Endicott and Spitzer 1978) is a semistructured interview, to be administered by a trained clinician, that predates the SCID-I/P. Diagnoses follow the Research Diagnostic Criteria (RDC) (Spitzer et al. 1978; Endicott and Spitzer 1979), which differ slightly from DSM-IV criteria. The SADS is primarily a research instrument but may also be used in clinical settings. Its main advantage over the SCID-I/P is that it specifies subtypes of depression and has 7-point severity rating scales for all symptoms. This provides greater finetuning and ability to detect change in psychopathology over time. After the interview, the clinician completes a score sheet, indicating whether a disorder is absent, probably present, or definitely present. The SADS-I covers the current episode; SADS-L, episodes that have occurred at some point in a person's lifetime; and SADS-C, change over time. The SADS includes the Global Assessment Scale (GAS), an earlier version of the GAF; in addition, a Hamilton Rating Scale for Depression score can be extracted from it. The SADS takes 1½–2 hours to administer. Joint interview reliability

is excellent (.82–.99) and test-retest is fair to good (.49–.93). The SADS/RDC detected substance abuse much better, and depressive disorders somewhat better, than clinicians using a nonstructured interview and DSM–III criteria (Rounsaville et al. 1980).

International researchers have extensively used the **Present State Examination (PSE)** (Wing et al. 1967). Originally based on the *International Classification of Diseases, Ninth Revision* (ICD–9), it can also generate DSM–III–R diagnoses (Wing et al. 1967; Wing et al. 1990). A computer program rather than a clinician makes diagnoses (Wing et al. 1974).

Availability

To order instruments and user's guides, contact:

American Psychiatric Press, Inc.
1400 K Street, NW
Washington DC 20005
(800) 368–5777

Nonprofit organizations can make photocopies, but others must purchase copies. Costs are:

User's Guide	—	$39.95
SCID–P	—	$39.95
SCID–P w/screen	—	$35.00
SCID–NP	—	$35.00
SCID–II	—	$19.95

Instrument

National Institute of Mental Health (NIMH) Diagnostic Interview Schedule (DIS)

Developer

Lee Robins, Ph.D., John Helzer, M.D., Linda Cottler, Ph.D., and Evelyn Goldring, M.A.T.

Department of Psychiatry
Washington University School of Medicine
(Address below)

Contact Person

Susan Keating
Department of Psychiatry
Washington University School of Medicine
4940 Audubon Avenue
St Louis MO 63110
(314) 362-2469

Description

The **National Institute of Mental Health (NIMH) Diagnostic Interview Schedule (DIS)** is a highly structured interview designed to diagnose various mental disorders according to DSM-IV and related diagnostic criteria (e.g., the Feighner Criteria and the Research Diagnostic Criteria [RDC]). It was designed to enable nonclinicians to identify mental disorders in large-scale epidemiologic surveys of the general population. It does not require clinical judgment; rather, it expects interviewers to follow the interview schedule exactly as written: there are few skipouts and no openended questions and responses are scored directly without having to decide whether they meet a criterion, as in less-structured clinician-administered interviews (Robins et al. 1985). The interview schedule includes all important instructions so that interviewers will not act idiosyncratically, and almost every question uses the method of probing to determine whether a symptom is severe enough to be counted and not due to medical causes. The interviewer does all scoring on the interview schedule, which provides enough information for a clinician to review and amend the diagnosis. Questions for all diagnoses are grouped together so that entire sections pertaining to particular diagnoses may be omitted.

Diagnoses are for lifetime and a current period (past 2 weeks, month, 6 months, or year). For each symptom, the interviewer asks age at onset, age at last episode, recency, whether medical care was sought, and whether it can be attributed to physical illness or medication. Since it counts symptoms even if they do not meet diagnostic criteria, the DIS can assess change in symptomatology over time.

Computer programs are available to make diagnoses. Separately available substance abuse modules cover abuse of and dependence on various substances in greater detail. Assessment includes quantity, frequency, and course of substance use.

Purpose

The DIS is especially useful for drug treatment programs that want to diagnose mental disorders but have limited clinical staff. The body of the interview provides instructions to make administration easier and more uniform. The DIS requires no information other than that which the client provides.

Content Areas

The DIS can generate the following DSM-IV diagnoses (see appendix B):

Cognitive Impairment (severe or mild).

Mood Disorders: Manic Episode, Major Depressive Disorder, and Dysthymic Disorder.

Schizophrenic Disorders: Schizophrenia, Schizoaffective Disorder.

Substance-Related Disorders: Alcohol; Opioid; Amphetamine; Cocaine; Hallucinogen; Cannabis; Sedative, Hypnotic, or Anxiolytic; Inhalant; Nicotine; and Phencyclidine-Related Disorders.

Anxiety Disorders: Obsessive-Compulsive Disorder, Agoraphobia Without History of Panic Disorder, Social/Simple Phobia, Panic Disorder, Generalized Anxiety Disorder.

Other Disorders: Posttraumatic Stress Disorder, Somatization Disorder, Pain Disorder, and Antisocial Personality Disorder; Anorexia Nervosa and Bulimia Nervosa; Sexual Dysfunction; Gender Identity Disorder; and Pathological Gambling.

The DIS includes the Mini-Mental State (see pages 58 and 113–116) to assess cognitive function (Folstein et al. 1975).

It obtains demographic information (age, gender, marital status, children, employment history, and education).

Population

Age 15 or older. There are no educational or reading requirements, but clients must not be so cognitively impaired that they cannot understand or respond to the questions reliably. The DIS has been translated into Spanish, Portuguese, French, German, Chinese,

Korean, Arabic, Greek, and Japanese. Only the Spanish version has been tested for its comparability with the English version.

Format

Highly structured interview; nonclinicians can administer.

Training

Available either at Washington University or elsewhere (see *Availability* below). The training manual includes a history and description, detailed interviewing instructions, mock interview scripts, homework assignments, and videotaped interviews with precoded forms demonstrating how they were scored.

Time

1 hour.

Use

Although they need not be clinicians, interviewers must be able to read aloud well and to read, listen, and score simultaneously. Participation in a 3- or 5-day training program (didactic and practical) and a week of field practice are required.

Scoring

Two computer scoring programs are available. One is a SAS diagnostic program for use on an IBM-compatible personal computer. The software contains diagnostic programs for DSM–IV, input specifications, and test cases. The other, the DSM–IV Data Entry, Cleaning, and Scoring program, scores all diagnoses and gives a list of positive diagnoses. A handscoring manual is also available. After an interview is hand-scored, all diagnoses are coded on the face sheet.

Psychometrics

Concordance between clinician and lay interviewer results when both used the DIS with the same patients were high for all diagnoses. Sensitivity and specificity (percentages of cases and of noncases or normals correctly identified, respectively) were also high (above 90 percent) for all diagnoses (Robins et al. 1981). Other test-retest reliability studies have also shown high reliability (Burke 1986).

Validity tests have measured how well the DIS matches, or correlates with, diagnoses based on clinician judgment—a yardstick not uniformly seen as definitive (Robins 1985). Estimates of cross-site and international validity suggest, however, that the DIS is a good tool. For example, diagnosis rates are similar to those obtained from physicians using clinical interviews, records, and family reports.

Norms

Available on the general population (Myers et al. 1984; Robins et al. 1984).

Strengths & Limitations

The DIS is most accurate in diagnosing current and severe mental disorders, since clients forget events that are from the more distant past or were not serious. Because the interviewer does not gather information from other people or medical records and has no opportunity to ask additional questions or confront denials and inconsistencies, there is room for inaccuracy—particularly with psychotic and cognitively impaired individuals. However, if a drug treatment program chooses to use the DIS as a clinical diagnostic tool, rather than as a research instrument, there is no reason why it cannot gather such additional data.

Related Tests

The **SCID–I/P** and other semistructured interviews described above also provide DSM–IV diagnoses. The major difference is that clinicians must conduct them.

Availability

Programs may order the DIS and related materials through:

Judy Kultermann or Susan Keating
Department of Psychiatry
Washington University School of Medicine
4940 Audobon Avenue
St Louis MO 63110
(314) 362–2426

Interviewers should have at least a high school diploma. The DIS interview currently costs $50; mock interviews and homework materials, $25, and a computerized version that can be self- or interviewer-administered, $250. A scoring program using SAS software programming language costs $75; a data entry, cleaning, and scoring program, $200; and a handscoring manual, $10. The substance abuse module interview is available for $20, with computerized data entry and scoring for $250 (with editing capacity, $550).

Washington University in St. Louis hosts a 5-day onsite training program twice each year (May and October) for $750 per person (includes all materials). Offsite 3-day training programs cost $500 plus $150 per day per trainer plus travel and per diem fees. (One trainer will work with six people per group.)

Instrument

Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II)

Developer

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Contact

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New York State Psychiatric Institute
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New York NY 10032
(212) 960-2200

Description

The **Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II)** is a semistructured interview designed to diagnose 12 DSM-IV personality disorders (Spitzer et al. 1987). It is generally administered in conjunction with the SCID-I/P (see page 76 above), a semistructured interview that diagnoses non-personality DSM-IV disorders, and with the SCID Personality Questionnaire, a self-report screening instrument with 120 yes/no questions. The client completes the SCID Personality Questionnaire before meeting with the interviewer, who then can skip all the items in the SCID-II that the client's questionnaire did not affirm. The SCID-II is thus designed to focus on items the client has affirmed and determine whether a Personality Disorder is actually present. The interview schedule indicates numbers of the corresponding questions from the Personality Questionnaire. As with the SCID-I/P, the interviewer is encouraged to use a variety of sources of information and to modify the interview to obtain information as completely and accurately as possible. The relevant portion of the interview presents DSM-IV criteria to guide the examiner's approach. Questions about each Personality Disorder are grouped logically. Scoring parallels the SCID-I/P: (?) = inadequate information; (1) = absent or false; (2) = subthreshold; and (3) = threshold or true. A summary score sheet indicates whether the personality disorder is present and rates its severity (mild, moderate, severe) over the past year.

Purpose

To diagnose DSM-IV personality disorders.

Content Areas

The SCID-II assesses 12 personality disorders: Avoidant, Dependent, Obsessive-Compulsive, Passive-Aggressive, Self-Defeating, Paranoid, Schizotypal, Schizoid, Histrionic, Narcissistic, Borderline, and Antisocial.

Population

All.

Format Self-report screening questionnaire, followed by semistructured interview to assess positive responses in more detail in order to make a personality disorder diagnosis.

Training Mental health clinicians who have experience evaluating personality disorders and are familiar with DSM–IV criteria should administer the SCID–II. The SCID–II package includes a 1½ hour videotape, also available separately for $60. The SCID–I/P users' guide includes instructions for using of the SCID–II.

Time If the SCID–I/P interview has been done and the SCID–II self-report section completed beforehand, the SCID–II takes 30–45 minutes to administer; if the self-report section is not done, the SCID–II may take 1–1½ hours.

Use Personality Disorders, particularly Antisocial Personality Disorder, are common among substance abusers (Regier et al. 1990). Personality disorders, in general, are a major cause of psychiatric distress and impaired social functioning. They typically become the focus of psychiatric treatment, as they persist long after acute disorders have resolved. Unfortunately, they often significantly impede effective treatment by causing problems in interpersonal relationships and impulse control. It is important to distinguish between the symptoms resulting from an acute episode of mental illness and the behaviors, attitudes, and personality features that characterize a person over his or her lifetime. Personality should ideally be assessed after episodes of acute mental illness have passed.

Scoring The score sheet labels disorders *absent*, *subthreshold*, or *present* and gives their current severity rating(s).

Psychometrics SCID–II Personality Disorder diagnoses correlated moderately to highly with diagnoses by a panel of clinicians (0.45–0.95 across 12 disorders) (Skodol et al. 1988).

Norms Studies using the SCID–II include data from panic patients (Friedman et al. 1987), depressed patients (Reich and Noyes 1987), and nonpatient samples (Zimmerman and Coryell 1989).

Strengths & Limitations No other instrument diagnoses personality disorders as validly and reliably as the SCID–II. It requires a clinician to conduct a fairly long interview. The Personality Questionnaire will flag potential problems but is not a diagnostic tool.

Related Tests

The Millon Clinical Multiaxial Inventory–II (Millon 1987) is a 175-item true/false test that generates 8 basic personality styles, 3 pathological personality disorders, and 9 clinical syndrome scales. Recent reviews (Dana and Cantrell 1988; Wetzler 1990) have indicated a number of problems: poor test-retest reliability, especially for inpatients; probable effects of response sets; susceptibility to faking; item overlap between different scales; and excessively high intercorrelations between different scales, indicating that they are not measuring different personality disorders. Although the MCMI was designed to provide DSM–III Axis I and II diagnoses, its factor structure is somewhat incongruent with that of DSM–III. Sensitivity is low for DSM–III clinical syndromes such as Mania, Major Depression, and Schizophrenia. Correlations between certain MCMI Clinical Syndrome scales and other instruments are modest (.36 with the Mania Rating Scale and .37, .45, .56, and .62 with the Hamilton Rating Scale for Depression). It seems to perform somewhat better when diagnosing Personality Disorders, but its success is relevant primarily to clusters of disorders and not to particular disorders themselves. Studies that used structured interviews to provide criterion diagnoses found better diagnostic efficiency than studies that used clinician-generated diagnoses, suggesting that MCMI diagnoses are discrepant with standard clinical practice. The MCMI tends to overdiagnose Personality Disorders compared to clinicians, particularly when clinical syndromes are present. Since MCMI personality disorder diagnoses have proven unstable during brief treatment, these scales are probably measuring not enduring personality traits but rather transient affective states. For drug treatment clients, in particular, the MCMI has important limitations. Calsyn and Saxon (1990) found that it correctly classified only 19.7 percent of a drug-abusing sample, although it misclassified only 12 percent of a psychiatric sample as drug abusers.

The **Haertzen Psychopathic State Inventory** (PSI), developed by Haertzen and colleagues (Haertzen et al. 1980) is a brief inventory of six scales: Impulsivity, Egocentricity, Needs, Hypophoria, High ("the continuing desire to get high"), and Sociopathy. It is based on the assumption that substance abusers are characterized by high levels of impulsivity and egocentricity and by high basic needs for, and pressure to seek experiences that induce, euphoria. The PSI scales were developed to distinguish pathological levels of these dimensions and can be summarized to reflect an overall level of psychopathology particular to substance abuse. These scales have been normed on adult addicts, alcoholics, and normals and frequently used in the drug field. They can assess current status and

measure change over time. The PSI's 90 true/false statements can be either self-administered or read by an interviewer with no loss in reliability. Scoring simply entails summation using directions supplied in published articles. Published materials also provide norms for evaluating scores. The authors suggest, however, that the range of scores on each scale may differ somewhat for older or depressed people.

The **Minnesota Multiphasic Personality Inventory (MMPI)** is a widely used, 566-question, self-administered questionnaire. Clients indicate whether each statement applies to them (true) or not (false). The MMPI provides 10 personality or psychopathology scores (hypochondriasis, depression, hysteria, psychopathic-deviate, masculinity/femininity, paranoia, psychasthenia, schizophrenia, hypomania, and social introversion) and 4 validity scales (Question, Lie, Validity, and Defensiveness). Scores are plotted on a profile sheet that reflects standard deviations from the mean. The MMPI is available in 45 languages, takes 45–90 minutes to complete, and requires that clients be able to read. National Computer Systems/PAS Division sells test booklets, 25 answer sheets and answer keys for about $25. Despite how widely it has been used, the MMPI has important limitations for use with substance-abusing clients. It is long and tedious and requires relatively sophisticated reading skills; it is probably inappropriate for adolescents (Williams and Butcher 1989). Studies have shown that it does not effectively identify substance misuse (Filstead et al. 1983; Finlayson et al. 1986), measure change (Gallucci et al. 1989), or predict treatment outcome (Filstead et al. 1983). It may have some use in identifying dually diagnosed clients (Rozensky et al. 1988). The validity of the depression scale is not as good as that of other instruments such as the Beck Depression Inventory or the Zung Self-Rating Depression Scale (Schaefer 1985).

Other personality assessment tools for Personality Disorders include: the **Structured Interview for DSM-III Personality Disorders (SIDP)** (Stangl et al. 1985; Pfohl et al. 1983), a 60–90 minute structured interview, and the **Personality Disorder Examination** (Loranger et al. 1987), a semistructured interview that groups questions by functional areas (e.g., work, relationships, and affect) rather than by personality disorder. The **Personality Diagnostic Questionnaire—Revised (PDQ)** (Hyler et al. 1987) is a self-report questionnaire of 152 true/false items that takes about 20 minutes. It has adequate test-retest reliability (Hurt et al. 1984), but poor agreement with clinician diagnoses or the SIDP (Hyler et al. 1989; Pfohl et al. 1987).

Availability

To obtain instructions and User's Guides, contact:

American Psychiatric Press, Inc.
1400 K Street, NW
Washington DC 20005
(800) 368-5777

Rating Symptom Severity

This section reviews instruments that detect and rate the severity of a wide range of mental symptoms. They cannot be used to diagnose specific mental disorders. These instruments will show, for example, that a client feels guilty, has trouble sleeping and eating, and feels discouraged and they will indicate how severe these symptoms are, but they cannot say whether these symptoms together represent Major Depressive Disorder, Dysthymic Disorder, or the depressive phase of a Bipolar Disorder. Similarly, an instrument may demonstrate that a client is tense and worried, or experiences palpitations and shortness of breath; it will not, however, indicate whether the client has Generalized Anxiety Disorder or Panic Disorder. The SCL-90-R for example, may characterize a client as confused and suspicious, with hallucinations and unusual thoughts, but will not permit a diagnosis of Schizophrenia. These instruments are brief and easy for clients to use by themselves. They screen for psychiatric symptoms and quantify their presence and severity. When given at intake and later repeated, they show clearly whether a symptom has resolved or diminished in intensity. Some instruments—such as the SCL-90-R, POMS, BPRS, and GHQ—screen for a variety of mental symptoms. Because they report subscale scores (as well as overall scores), they can focus on particular types of symptoms; e.g., depression, anxiety, or psychosis. Other instruments screen for symptoms of only one type of mental illness; e.g., depression (BDI), suicidality (BHS), or anxiety (STAI).

Instrument	**Symptom Checklist-90-Revised (SCL-90-R)**
Developer	Leonard Derogatis, Ph.D.
Contact	Clinical Psychometric Research, Inc. PO Box 619 Riderwood MD 21139 (800) 245-0277
Description	The **Symptom Checklist-90-Revised (SCL-90-R)** is a self-report symptom inventory used to measure the severity of psychological problems (Derogatis 1977). It has been used in a variety of treatment settings including substance abuse (Wood et al. 1984; Rounsaville et al. 1979). Its 90 items cover 9 primary symptom dimensions and 3 global indices of distress. The checklist is self-administered and takes approximately 15 minutes to complete. It may also be read to patients with no appreciable biasing effects. Each checklist item represents distress on a 5-point scale and refers to the past 7 days of the patient's life. The SCL-90-R has been used extensively as a screening tool and as an outcome measure in research on treatment of methadone clients and other opiate abusers. A brief, 53-item version, the Brief Symptom Inventory, is also available.
Purpose	The SCL-90-R is a screening instrument for determining the type and severity of a variety of mental symptoms. It can be used at intake and to track symptom changes over time. Because it is self-administered and requires some reading skills, it must be read to the semiliterate.
Content Areas	The nine primary symptom dimensions covered are somatization, obsessive-compulsiveness, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. The three global indices are the General Severity Index (GSI), which reflects both number and intensity of symptoms; the Positive Symptom Total (PST), a total symptom count; and the Positive Symptom Distress Index (PSDI), a symptom intensity measure adjusted for the number of symptoms present. The global indices are used to compare clients with different kinds of symptoms.
Population	Adolescents and adults of both sexes. It has been translated into 20 languages.

Format Self-report checklist of 90 statements; respondent indicates level of distress on 5-point scales.

Training None to administer. Scoring and interpretation manual available.

Time Approximately 15 minutes.

Use The SCL-90-R can be used to screen for the presence and severity of a wide variety of mental symptoms. It can track change in symptom severity over time (as an outcome measure) and is particularly sensitive to changes in depressive, sexual, and stress-related symptoms.

Scoring The SCL-90-R is scored for each of the nine symptom dimensions and three global indices by simply adding item ratings (0-4); a scoring manual guides interpretation of the results.

Psychometrics The SCL-90-R has very good reliability (test-retest reliability of .78-.90; internal consistency of .77-.90) (Derogatis 1977). Its clinical sensitivity (ability to detect symptoms) is very favorably rated (Weissman et al. 1977).

The SCL-90-R has shown high validity compared to such instruments such as the MMPI and the Middlesex Hospital Questionnaire (Boleoucky and Horvath 1974). In other studies, SCL-90-R global scores correlated highly with other depression measures such as the Hamilton Rating Scale for Depression and the SAS-SR (Weissman et al. 1978).

Norms The SCL-90-R has been used in a wide variety of contexts. Formal published norms exist for psychiatric inpatients and outpatients and adult nonpatient, adolescent nonpatient, and geriatric normals. Profile data are also available for a large number of specialized clinical groups including substance abusers.

Strengths & Limitations The SCL-90 is brief, easy to use, and widely applicable to a variety of populations. Clients must have reading ability to use it independently, but it can be read to them.

Related Tests The **Profile of Mood State (POMS)** measures six affective states: Tension/Anxiety, Depression/Dejection, Anger/Hostility, Vigor/Activity, Fatigue/Inertia, and Confusion/Bewilderment (McNair et al. 1991). Its 65 items are scored on a 5-point scale. It is written at a 7th grade or lower reading level and takes less than 10 minutes to complete. It has been normed on outpatient

psychiatric and college student populations. It can assess current mood states as well as mood change over time. The POMS can be scored by hand or by computer with optical scanning equipment. Summing responses produces scores for each mood factor. The Educational and Industrial Testing Service publishes the POMS.

The **Brief Psychiatric Rating Scale (BPRS)** (Overall and Gorham 1963; Hedlund and Vieweg 1980) has been used widely to rate, and measure change in, psychiatric symptom severity. A mental health clinician conducts a clinical interview and then uses a 7-point severity scale (from 0, "not present," to 6, "extremely severe") to rate 18 items: somatic concern, anxiety, emotional withdrawal, conceptual disorganization, guilt feelings, tension, mannerisms and posturing, grandiosity, depressive mood, hostility, suspiciousness, hallucinatory behavior, motor retardation, uncooperativeness, unusual thought concept, blunted affect, excitement, and disorientation. The developers have outlined an 18-minute interview (Overall and Gorham 1963), but the BPRS can be scored following any clinical or structured interview.

The sum of the ratings yields a total pathology score, whose interrater reliability is excellent (.80 and higher); that of individual symptom scales is very good (median of .75 and above). Validity is very good when compared to clinical ratings, and the BPRS can is clearly able to detect change in symptomatology as a result of treatment (Hedlund and Vieweg 1980). The BPRS has been translated into several languages, and comparative data are available on many different types of psychiatric patients, including substance abusers (Steer and Schut 1979; Palestine and Alatorre 1976; Hoffman and Wefring 1972; Mirin et al. 1976; Overall et al. 1973; Marcos et al. 1973). Computer programs are available to classify patients by symptom type.

The BPRS is simple and easy to use but, compared to the SCL-90-R and POMS, is limited by the fact that it requires "trained clinicians who are thoroughly familiar with symptom construct definitions, and who use a relatively standard interview procedure" (Hedlund and Vieweg 1980). However, if a mental health clinician is conducting an interview, he or she can subsequently complete the BPRS to measure baseline status and subsequent change.

The 60-item, self-administered **General Health Questionnaire (GHQ)** can detect psychiatric distress (Goldberg 1978), both for initial assessment and to detect change over time. In addition to identifying mental symptoms, the GHQ also addresses role

functioning, actual behavior, and role satisfaction (Cleary et al. 1982). Two shorter versions have been developed (Goldberg 1972; Goldberg and Hillier 1979). The full version takes about 20 minutes and the short forms take 10. The GHQ has shown good reliability and validity in general population (Goldberg et al. 1976) and special population (Rabins and Brooks 1981) samples.

Availability

The SCL-90-R may be ordered from:

Clinical Psychometric Research, Inc.
PO Box 619
Riverwood MD 21129
(800) 245-0277

Instrument **Beck Depression Inventory (BDI)**

Developer

Aaron T. Beck, Ph.D.
Center for Cognitive Therapy
University of Pennsylvania
Suite 519
133 South 36th Street
Philadelphia PA 19104

Contact

The Psychological Corporation
555 Academic Court
San Antonio TX 78204
(800) 228-0752

Description

The **Beck Depression Inventory (BDI)** is one of the most frequently used self-report depression rating scales. It was developed in the early 1960s (Beck et al. 1961) and has undergone extensive testing and been used with a wide range of populations. Its 21 items are each represented by 4 statements indicating the symptom's presence and severity. The client circles the number of the statement that most accurately represents how he or she has felt over the past week. (The time period can be changed from 1 week to 1 month, although the longer the period, the less accurate the recall.) The circled scores are totalled; a higher score represents more severe depression. Several cutoff scores have been proposed, depending on the population under study, although Beck recommends as follows: 0–9 = normal range, 10–15 = mild depression, 16–19 = mild-moderate depression, 20–29 = moderate-severe depression, 30–63 = severe depression. Beck recommends a cutoff score of 13 to identify depression among psychiatric patients.

The 21 items fall into 2 categories that represent the psychological and somatic aspects of depression. Scorers can create subscores for each category. This is particularly useful for populations with medical illnesses and substance abuse disorders whose symptoms overlap with the somatic aspects of depression; in those cases, the psychological score indicates depression more accurately. Scorers can perform various statistical tests to ensure that the symptoms of the medical illness are not biasing the depression score.

Purpose

The BDI is used to screen for the presence and rate the severity of depressive symptoms. It can be administered repeatedly to measure change over time. The BDI cannot diagnose specific psychiatric disorders such as Major Depressive Disorder, Dysthymic Disorder, Schizoaffective Disorder, or Bipolar Disorder.

Content Areas

The 21 items cover the following depressive symptoms: sadness, hopelessness, self-reproach, lack of interest or pleasure, guilt, feeling punished, self-hatred, self-criticism, suicidal ideas, crying, irritability, loss of interest, indecisiveness, feeling unattractive, inability to work, sleep difficulty, fatigue, loss of appetite, weight loss, worry about physical problems, and loss of sexual interest.

Population

All clients who can read and understand the instructions, and clients who cannot read (requires reading the statements to them).

Format

Paper-and-pencil self-administered test.

Training

Doctoral-level training or masters-level training with supervision by a doctoral-level clinician are required to interpret test results. Scoring instructions are available with test materials but simply involve adding the numbers the client circles. Standardized cutoff scores provide a benchmark for judging symptoms' severity.

Time

About 15 minutes.

Use

Programs may use the BDI to screen all clients at intake for depressive symptoms. It can be given repeatedly throughout treatment, at its conclusion, and during followup to measure changes in symptom severity. Total scores and psychological and somatic factor scores can be maintained on a computerized database. A staff member should look at the client's responses immediately after he or she completes the test to ensure that he or she circled one and only one score for every item; omissions or errors can be corrected immediately.

Scoring

Any staff member can perform the simple scoring.

Psychometrics

The BDI's split-half reliability (comparing the questions with each other) was excellent (.86–.93) (Beck et al. 1961). BDI scores correlated fairly well with those on the Hamilton Rating Scale for Depression (HRSD), a semistructured interview generally considered an excellent measure of depression ($r = 0.33$ to $r = 0.79$ on subsequent assessments) (Bailey and Coppen 1976). Finally, BDI scores correlated well with global clinical assessments (concurrent validity of .61–.73) (Beck and Beamesderfer 1974).

Norms

The BDI has been used with substance abusers (Reynolds and Gould 1981), psychiatric patients (Vrendenburg et al. 1986), medical inpatients (Hamilton and Abramson 1983; Fitzgibbon et al. 1988), medical outpatients (Campbell et al. 1984), normal healthy adults

(Oliver and Simmons 1984), cognitively impaired clients (Johnson and Crockett 1982), and many other populations (Gallagher et al. 1982; Stehouwer et al. 1985).

Strengths & Limitations

The BDI is easily administered and scored. Its major weakness is the possible bias from somatic symptoms due to medical illness or substance abuse rather than depression. A limitation of any self-administered questionnaire, particularly one for depression, is that depressed individuals have difficulty concentrating, making decisions, and completing tasks (Boyd et al. 1982). The ability to read and understand the questionnaire is essential. Comments by Myers and Weissman about the CES-D apply to all self-administered depression rating scales:

> *These instruments are far less effective for clinical purposes [than for research]; about one-third of the cases of RDC-diagnosed major depression were missed by the symptom scales (false negatives). If we change the cut-off point so that the false negative rate declines significantly, the false positive rate increases substantially. . . . If screening scales are to be used in clinical settings . . . to detect persons who may require treatment for depression, much lower cut-off scores would be required to reduce the false negative rate. . . . However, there would then be a [substantial increase in the] false positive rate . . . screening devices [are not] diagnostic instruments. . . . (Myers and Weissman 1980).*

Related Tests

None of the many self-administered depression rating scales has been used as widely as the BDI. Reasonable alternatives include the **Center for Epidemiologic Studies Depression Scale (CES-D)** and the **Zung Self-Rating Depression Scale (SDS)**. **Visual Analogue Scales (VAS)** can also rate the severity of depression and are especially valuable for quickly assessing change. Individual subscales from instruments such as the SCL-90-R and the POMS also indicate the presence and severity of depressive symptoms.

The **CES-D** is a 20-item self-report scale initially developed using items from other depression rating scales to identify depressive symptomatology in clinical settings and in epidemiologic surveys of the general population. The client rates, for the past week, whether each of a series of statements applied to him or her: most or all of the time (3), occasionally or a moderate amount of time (2), some or little of the time (1), or rarely or none of the time (0). The total score ranges from 0-60. A cutoff score of 16 generally serves to distinguish depressed from nondepressed clients (Boyd et al. 1982).

The CES-D has acceptable reliability (Roberts and Vernon 1983) and can detect change in symptoms over time. However, in two studies comparing the CES-D with a clinician interview (Schedule for Affective Disorders and Schizophrenia [SADS]), it correctly identified only 60-64 percent of the clients whom the interview found had a major depression (Rabkin and Klein 1989; Boyd et al. 1982). It correlates modestly for major depression with the RDC (r = .43, K score = .38) but very well with the HRSD for drug addicts (.70) and alcoholics (.82) (Weissman et al. 1977). The National Institute of Mental Health, Epidemiology and Psychopathology Branch, publishes the CES-D.

The **SDS** presents 20 statements and asks clients to indicate whether they apply: most or all of the time, a good part of the time, some of the time, or none or a little of the time (Zung 1965). The responses are converted to a total score of 25-100. The higher the score, the more depressed the person is: 25-50 is normal, 50-59 is minimal to mild depression, 60-69 is moderate depression, and 70-79 is severe depression. The SDS is not influenced by age, education, income or intelligence, and its reliability is good (odd-even correlations, r = 0.73) (Zung 1965; Zung 1974). However, since it correlates highly with self-reports of anxiety, it cannot reliably identify depression when the two disorders are present (Rabkin and Klein 1989). In one study it did not discriminate between psychotics and mildly ill patients, and the psychotic patients had difficulty completing the questionnaire on their own (Rabkin and Klein 1989). Finally, the results of validity studies conducted by Zung and colleagues differ considerably from those of similar studies conducted by others, suggesting, overall, that the SDS is less valid than trained observer ratings using instruments such as the HRSD (Rabkin and Klein 1989). Zung developed the Depression Status Inventory as a clinician-administered version of the SDS, but it is not widely used (Rabkin and Klein 1989).

VAS have been used to measure many subjective phenomena such as depression, anxiety, and fatigue (Aitken 1969; Sutherland et al. 1989). Creating and using a VAS entails drawing a 100 mm (4 in.) line, labelling each end with contrasting comments (e.g., "not at all depressed" versus "severely depressed"), and asking clients to indicate where they stand on the line. VASs are very easy and quick to administer and, although they may seem too simple, have been used widely in research studies. A VAS is an excellent, low-cost way to observe change over time.

Availability

The kit, comprising a manual and 25 record forms, may be ordered for $41 from:

The Psychological Corporation
555 Academic Court
San Antonio TX 78204
(800) 228-0752

Instrument — **Beck Hopelessness Scale (BHS)**

Developer — Aaron Beck, Ph.D.

Contact Person — Aaron Beck, Ph.D.
Center for Cognitive Therapy
University of Pennsylvania
Suite 519
133 South 36th Street
Philadelphia PA 19104

Description — The **Hopelessness Scale (BHS)** measures hopelessness or negative expectations and correlates highly with suicidal ideation. Its 20 true/false items are scored as 0 or 1 and summed to produce a "hopelessness score" of 0–20; higher scores indicate greater levels of despair. Scores indicate three factors: feelings about the future, loss of motivation, and future expectations. This scale is based on the literature indicating that depression and a concomitant sense of hopelessness are key components in both attempted and completed suicide (Minkoff et al. 1973). Hopelessness is conceptualized as negative expectations or attitudes: the patient expresses strong feelings that his or her problems will not be solved, feels negatively toward him or herself, and despairs of the future. While related to general depression, serious suicide attempts have been shown to relate most closely to the sense of hopelessness that scales such as this measure (Minkoff et al. 1973; Kovacs et al. 1975).

Purpose — The BHS is designed to identify high levels of hopelessness as an early warning of possible suicidal ideation.

Content Areas — Hopelessness.

Population — Adults who can read.

Format — Self-administered questionnaire; may be administered as an interview.

Training — None to administer or score. Doctoral-level training, or master-level training with supervision by a doctoral-level mental health clinician, required to interpret.

Time — 10 minutes.

Use — The BHS can be used to indicate despair about the future and discouragement. Although suicide is highly unpredictable, a high

score should prompt drug treatment program staff to monitor a client more closely and obtain a thorough mental health clinical assessment. Repeated use can track change in hopelessness over time.

Scoring

Each true/false item is scored 0 or 1. Scoring comprises simple summation to produce a total of 0–20.

Psychometrics

The author's reliability tests indicate high internal consistency ($r = .93$). Validity tests found significant correlations with clinicians' ratings of hopelessness among general population and suicide attempter samples (Beck et al. 1974). Comparisons with other hopelessness tests—such as the Stuart Future Test and the pessimism items on the BDI—also produce significant correlations (Beck et al. 1974).

Norms

General population, a sample of suicide attempters, and psychiatric patients. The BHS has not been normed specifically on substance abusers.

Strengths & Limitations

Since many persons entering drug treatment suffer from depression, which may be associated with suicide, a measure of suicidal potential may be a useful tool for treatment providers. The BHS, while not designed specifically for a substance-abusing population, is a quick, easy-to-use, and reliable indirect indicator of suicidal risk.

Availability

The BHS is available from the author.

Instrument	**The Spielberger State-Trait Anxiety Inventory (STAI)**
Description	**The Spielberger State-Trait Anxiety Inventory (STAI)** is a self-report scale developed to measure two different types of anxiety: state anxiety and trait anxiety. Trait anxiety refers to feelings a person generally has, relatively independent of circumstances and stable over time, whereas state anxiety is a transient emotional state, the way a person feels at a particular moment. The A-Trait scale comprises 20 statements of how a person might generally feel (e.g., "I worry too much over something that really doesn't matter"); clients indicate whether they apply "almost never," "sometimes," "often," or "almost always." The A-State scale also contains 20 statements (e.g., "I feel calm," "I am tense," "I feel nervous"); clients indicate whether "right now" they apply "not at all," "somewhat," "moderately so," or "very much so." Low A-State scores signify calm and tranquility; high scores indicate apprehension and fearfulness, verging on panic (Spielberger 1975). The STAI is brief and easy to administer. The A-State scale can be used repeatedly to measure changes in a client's level of anxiety or to measure the intensity of symptoms under particular circumstances (e.g., starting a new job or beginning a therapy session).
Purpose	The STAI rates the severity of anxiety, both at a particular point in time (state) and as an ongoing, stable personality characteristic (trait).
Content Areas	The scale items cover all aspects of anxiety, such as worry, tension, apprehension, lack of self-confidence, feeling overwhelmed, and feeling insecure or sensitive.
Population	Both adults and adolescents. Available in Spanish.
Format	Self-administered questionnaire.
Training	None to administer or score.
Time	About 15 minutes.
Use	The STAI can be used as part of an initial assessment to identify a client's current level of anxiety and anxiety-related aspects of his or her personality. It can be repeated during and after treatment to detect changes in the level of state anxiety.
Scoring	Handscoring keys available.

Psychometrics

Both the A-Trait and A-State scales correlate highly with other measures of trait and state anxiety, respectively. A-State scores increase in response to stressful situations and decrease with relaxation training or stressor removal (Spielberg 1975).

Norms

Available from the hundreds of studies that have used the STAI since 1969.

Strengths & Limitations

The STAI easily, quickly rates a client's present level of anxiety. The A-Trait scale indicates how prone a person might be to anxiety; that is, how likely to perceive a situation as threatening and respond with fear or anxiety. The STAI has limitations common to other self-report scales: clients must cooperate, understand instructions and test items, and answer honestly; and it does not yield information as in-depth or complete as a clinical interview.

Related Tests

Several of the instruments already described are useful in assessing symptoms of anxiety and diagnosing Anxiety Disorders. The SCL–90–R and related instruments all identify anxiety symptoms and rate their intensity. For example, the SCL–90–R includes subscale scores for Anxiety and Phobic Anxiety; the POMS, a Tension-Anxiety subscale; and the BPRS, Anxiety and Tension subscales. The structured interviews described previously—i.e., the SCID–I/P, DIS, SADS, and PSE—identify significant anxiety symptoms and can diagnose SCID–I/P Generalized Anxiety disorder and Panic Disorder.

A mental health clinician can rate the **Anxiety Status Inventory (ASI)** after interviewing a client by scoring 20 types of symptoms (e.g., anxiousness, fear, panic, mental disintegration, apprehension, tremors, body aches and pains, easy fatigability) on a 4-point severity scale that considers intensity, duration, and frequency. The ASI suggests questions that address each symptom to ensure that all areas are covered (e.g., "Do you ever feel nervous and anxious?" "Have you ever felt afraid?" "How easily do you get upset?"). The interview covers the previous week.

The **Self-Rating Anxiety Scale (SAS)** is a self-report version of the ASI. Clients rate how much the statements reflect their experience over the past week on a 4-point scale ("none or a little," "some," "a good part," or "most or all" of the time).

The **Taylor Manifest Anxiety Scale (TMAS)** has been used since 1950 to measure anxiety. It comprises 50 items from the Minnesota Multiphasic Personality Inventory (MMPI) that correlated highly

with anxiety. An additional 225 statements comprise nonanxiety MMPI items, MMPI validity scale items, and items from a rigidity scale. Clients respond "true" or "false" to whether items describe how they generally feel; e.g., "I worry quite a bit over possible troubles." Test-retest reliability is good (.88) and normative data are available on a range of populations.

Availability

Published by Consulting Psychologists Press, Inc.

Screening for Cognitive Impairment

Both alcoholism and drug abuse are associated with varying degrees of cognitive dysfunction (Carlin 1986; Loberg 1986; Parson and Farr 1981). Although acute intoxication often has dramatic mental effects, chronic substance use has subtle, often undetected long-term effects on brain function. Both clinicians and researchers may find it difficult to determine the relative impacts of substance abuse, lower socioeconomic and educational status, medical illness, and trauma—or to isolate the effects of individual classes of drugs. Serious neuropsychological dysfunction is also associated with HIV infection and AIDS (Grant et al. 1988; Navia et al. 1986a; Navia et al. 1986b; Atkinson et al. 1986).

Although treatment options are limited, and recovery of function is rare with chronic impairment, it is essential to recognize cognitive problems. For example, aggressive treatment may minimize the morbidity associated with acute conditions such as Wernicke's Encephalopathy. Moreover, the kinds of cognitive problems associated with substance abuse and HIV infection—i.e., forgetfulness; impaired judgment, reasoning, and problemsolving; and limited insight—will significantly affect a client's ability to understand the importance of behavior change, enter and engage in treatment, and carry out and sustain behavior change. Treatment personnel should identify these problems and adapt their treatment plans accordingly, and institute rehabilitative strategies where they may be effective; e.g., keeping a notebook or a schedule to help with memory deficits. Staff may need to lower their expectations, repeat material often, and check that clients have understood instructions and information.

This section reviews two computerized neuropsychological screening tests that can identify problems requiring more extensive evaluation by a neuropsychologist. The Mini-Mental State will pick up the most severe problems but miss more subtle ones. Some neuropsychological tests can be administered by trained technicians and interpreted by neuropsychologists.

Instrument **Neurobehavioral Evaluation System 2 (NES2)**

Developer Richard Letz, Ph.D., and Edward L. Baker, Ph.D.

Contact person

Richard Letz, Ph.D.
Division of Environmental and Occupational Health
School of Public Health
Emory University
1599 Clifton Road
Atlanta GA 30329
(404) 727-3697

Description

The **Neurobehavioral Evaluation System 2 (NES2)** is a group of standardized neuropsychological tests administered and scored by computer. The client self-administers the system while seated at the computer, with a staff person available to explain the instructions if the client has any difficulties. The software generates and reports the scores automatically. The NES2 is a screening, rather than a diagnostic, instrument. Although it has not been studied with substance abusers, its component tests focus on the kinds of cognitive impairments found among this population.

The NES2 uses computerized versions of common and highly-respected neuropsychological tests to evaluate the full range of cognitive functions. Table 3 shows each function and the NES2 test used to assess it. (It also presents the tests used in the Assessment of Cognitive Skills [ACS], another computerized battery described below).

Computerized neuropsychological testing is relatively new and only a few such programs are available. More than 50 investigators have used the NES2 on over 5,000 persons (Letz 1989). Consequently, normative data are available on normal healthy subjects, subjects exposed to a variety of environmental toxins (e.g., paint, solvents, mercury, and pesticides), and subjects infected with HIV (Franzblau et al. 1991).

There is no question that the best way to assess cognitive function is through a comprehensive series of neuropsychological tests that evaluate a wide range of brain functions and are repeated over time by a well-trained clinical neuropsychologist who will flexibly adapt them to probe the limits of a patient's performance (Lezak 1984). This process-oriented, hypothesis-testing approach can involve 4-6 hours of administration time and up to 2 additional hours to score and interpret; such extensive testing of every client would be

prohibitively expensive. It is essential, however, that clients who show deficits on a screening battery be fully evaluated in this way. The NES2 can effectively screen clients to determine which require such comprehensive evaluation.

Purpose

The NES2 was originally designed to evaluate the neurobehavioral functions of people who had been exposed to potential toxins. It is used primarily to screen for cognitive impairment in research studies and not to make clinical neuropsychiatric diagnoses.

Content Areas

See table 3.

Population

Any adult client who will use a computer.

Format

Self-administered, automatically scored computerized test.

Training

Minimal training for a technician to instruct clients who have trouble following the instructions on the computer screen. APA guidelines for clinical psychologists apply.

Time

1 hour.

Use

Although a computer administers the NES2, a staff person must be present to explain the test and the test system and answer any questions. If the NES is used for clinical purposes, interpretation requires clinical training.

Scoring

The computer program automatically scores and creates a separate data file for each client.

Psychometrics

The reliability and validity of the original paper-and-pencil versions of the subtests have generally been established; however, these psychometric properties cannot be applied directly to computer-administered versions. The entire NES2's overall reliability is quite high (test-retest correlations of .7) (Letz 1989). The developers report good test-retest reliability, although only three of the subtests were used ($r = .60$-$.84$).

Reported concurrent validity is acceptable ($r = .23$–$.76$), although, again, only three subtests were studied (Baker et al. 1985).

Norms

The user's manual cites literature that provides normative data.

Strengths & Limitations

Automated methods standardize testing so that observer bias and variation in test administration have less effect than in traditional

clinical administration. In testing attention and motor function, it is especially important to precisely and uniformly present the stimuli and detect the client's responses. Computerization also provides standardized and accurate interpretation and unambiguous measurement of change over time (Letz 1988, 1991; Letz and Baker 1986) Computerized tests such as the NES2 do not require highly trained personnel, saving substantial time and resources. They also eliminate data entry errors through error checks and data cleaning programmed into the system; this makes the data both more accurate and immediately available for analysis.

Letz and colleagues (Letz 1991; Letz and Baker 1986) report that clients who have used the NES2 enthusiastically prefer the computer technique to the paper-and-pencil method. Norms have not been established for substance abusers, and we do not know how receptive these clients will be to computerized neuropsychological testing. Although the NES2 can be used on an inexpensive PC with MS-DOS, not all drug treatment programs will have a machine available to test clients in a quiet and private setting.

Related Tests

The **Assessment of Cognitive Skills (ACS)** is a computerized neuropsychological test protocol developed by Dr. Douglas Powell and colleagues at Harvard University (Powell et al. 1990). It has reasonable test-retest reliability and is sensitive to subtle cognitive dysfunction; ACS correctly classified normal and impaired subjects 75–90 percent of the time. Unfortunately, it was not developed with substance abusers in mind and has not been tested on this population. Table 3 compares the NES2 and ACS in brain functions assessed and specific tests used, showing that both assess a wide range of functions but use different tests to do so. The NES2 has a more comprehensive set of tests and includes tests of motor function and attention that are particularly important for assessing substance abusers (Jordan Grafman, Ph.D., personal communication).

Availability

The NES2 may be purchased from:

Neurobehavioral Systems, Inc.
16 Park Avenue
Winchester MA 01890
(617) 729–0729

NES2 runs on close IBM-compatible PCs with a strictly IBM-compatible parallel printer interface, CGA video mode capability, and a black/white or color monitor.

NES2 is licensed on a per station basis. The first station license costs $500 and includes a copy of the user's manual, all necessary diskettes, 1 hour of free telephone consulting support, and free software updates for 2 years. Each additional station license costs $200 and includes one additional hour of free telephone support. Joysticks and keyboard overlays cost $90 and $40 respectively.

Table 3. The Neurobehavioral Evaluation System 2 (NES2) and the Assessment of Cognitive Skills (ACS)

Function	Test	
	ACS	NES2
Reactivity, Attention, Perceptual Motor, Perseverance	Reaction times Numbers forward Numbers reversed Alikes Alphabet	Finger tapping Hand-eye coordination Simple reaction time Continuous performance Symbol-digit substitution Digit span forward Digit span backward Digit span total Switching attention
Memory	Address Story (immediate recall) Story (delayed recall) Wordlist Tic Tac	Pattern memory Serial digit learning Associate learning Associate recall
Visuospatial Perception	Cubes Clock	Pattern comparison
Calculation	Math	Horizontal addition
Conceptualization, Reasoning	Analogies Object math	Grammatical reasoning
Estimated general intelligence	—	Vocabulary

Instrument

Mini-Mental State (MMS)

Developer

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Description

The **Mini-Mental State (MMS)** is a standardized version of the mental status examination that mental health clinicians and neurologists perform in routinely evaluating patients. Its 11 questions or commands assess orientation, immediate recall, delayed recall, attention, mental control, and ability to name items, follow verbal and written commands, write a sentence, and copy a complex figure. The maximum total score is 30. Lower scores indicate more severe impairment; a score below 24 is generally considered to indicate cognitive dysfunction. In one study, patients with dementia scored an average of 9.7; patients with depression with cognitive impairment, 19.0; patients with uncomplicated depression, 25.1; and normals, 27.6 (Folstein et al. 1975). Non-mental health clinicians can administer the MMS with minimal training. The DIS (see page 82) includes the MMS.

Purpose

The MMS is a brief cognitive impairment screening test. It detects severe impairment but is not sensitive to subtle deficits. It is not suitable for diagnosing the type of cognitive impairment or specifying the precise nature of the dysfunction.

Content Areas

The MMS screens for problems with orientation, short-term memory, attention, mental control, writing, reading, naming, understanding and following instructions, and copying figures.

Population

All populations.

Format

Structured interview that asks the client to perform specific tasks.

Training

None for mental health clinicians; minimal training for non-mental health clinicians to read the instructions uniformly and score the test.

Time

5–10 minutes.

Use

The MMS is an acceptable screen for severe cognitive impairment. It can not substitute for formal neuropsychological testing which, unlike the MMS, can be used to identify the nature and severity of the deficit and to make a diagnosis (in conjunction with additional historical and laboratory data). Programs should refer clients who perform near or below the cutoff score of 24 for more comprehensive assessment. Users should be aware of the MMS's limited ability to detect subtle problems and should thus also refer for further evaluation clients who seem to have cognitive difficulties in spite of nonpathological scores. The MMS can also show change in cognitive status over time. Clients who are intoxicated or whose depressive symptoms include confusion, forgetfulness, and other cognitive limitations (pseudodementia of depression) will show improvement in MMS scores with resolution of the intoxication or depression. By contrast, clients whose cognitive impairment has resulted from brain injury due to drugs, disease, or trauma, will show no change in their scores. The authors of the MMS believe that because it assesses functions commonly used in everyday life—such as reading, writing, and following commands—it can be used to predict a client's capacity to manage the activities of daily living (see also Aske 1990).

Scoring

Scores are assigned to each item and printed on the test; clients lose 1 point for every error. Points are summed to give a total score, with a maximum (excellent cognitive function) of 30.

Psychometrics

Reliability is very good (24-hour test-retest of .89; 28-day test-retest, .98; interrater, .83)

The MMS was able to differentiate subjects with dementia, subjects with depression with and without cognitive impairment, and normals. In another study it differentiated patients with dementia from patients with depression, mania, Schizophrenia, Personality Disorder with drug abuse, and neuroses (Folstein et al. 1975). The MMS detected change over time in subjects with pseudodementia (cognitive impairment due to depression rather than true brain disease) who experienced clinical improvement in the primary depressive disorder. The MMS correlated highly with the IQ score on the Wechsler Adult Intelligence Scale (WAIS) and the WAIS—Revised (WAIS-R), ($r = .66$–$.78$ and .83, respectively) (Folstein et al. 1975; Farber et al. 1988).

Norms

The MMS has been used most extensively on subjects with dementia associated with old age (e.g., Alzheimer's disease and Multi-Infarct dementia). It has also been used on subjects with various psychiatric disorders, including substance abuse and medical problems, and with normals.

Strengths & Limitations

The MMS is a brief, easy-to-use screening test for cognitive impairment. It can identify clients who require more thorough neuropsychological evaluation to clarify and diagnose their cognitive problems. It is neither highly specific (Giordani et al. 1990) nor sensitive to subtle problems (Faustman et al. 1990; Beatty and Goodkin 1990) but may be more useful than clinical impression (O'Neill et al. 1989). If clinicians or other staff who regularly observe a patient think that he or she needs further evaluation of cognitive function, they should ensure it regardless of MMS scores. Education and socioeconomic status, but not gender or age, may influence test scores (O'Connor et al. 1989). Repeated administration can show changes in a client's cognitive performance over time. These have diagnostic implications: improved MMS scores, for example, suggest that cognitive deficits are due to acute, remediable problems such as intoxication or depression. Lack of improvement suggests permanent brain impairment.

Related Tests

The **Neuropsychological Screening Battery for Multiple Sclerosis (MS)**, developed by Stephen M. Rao, Ph.D., is a 30-minute screening test for cognitive impairment in MS. The MS Screening Battery is a relatively comprehensive, brief battery that might be used to screen for cognitive impairment in clients with other disorders, although it has not been tested on such clients. Nonclinicians can administer all of the tests in this battery, which include: Selective Reminding Test (verbal learning), 7/24 Spatial Recall Test (visuospatial learning), Paced Auditory Serial Addition Test (sustained attention and concentration), and Word List Generation (speed of mental processing). The Battery protocol contains instructions for administering the tests and alternate forms so that tests can be repeated without a learning effect. For further information, contact:

Stephen M. Rao, Ph.D.
Section of Neuropsychology
Medical College of Wisconsin
1000 North 92nd Street
Milwaukee WI 53226
(414) 778-4588

As far as we know, no battery of cognitive function tests is specific to the problems of substance abusers. The **selected neuropsychological tests** listed in table 4, however, have been suggested as useful for screening (Jordan Grafman, Ph.D., personal communication). Nonclinicians can administer them, but training in appropriate administration techniques and scoring is essential. A neuropsychologist should interpret test results.

Availability

To get information on or to acquire the MMS, contact:

Marshal F. Folstein, M.D.:
Department of Psychiatry
New England Medical Center #1007
750 Washington Street
Boston MA 02111

PH:(617) 350-8442
FX:(617) 956-5772

Table 4. Selected Neuropsychological Tests to Screen for Cognitive Impairment

Function Assessed	Test
Perceptual-Motor	Grooved Pegboard Finger Tapping Simple Reaction Time (Lafayette Catalogue) Go-No-Go Test (Lafayette Catalogue) Digit Symbol Subtest from the Wechsler Adult Intelligence Test-Revised (WAIS-R) Benton Visual Discrimination Test
Memory and Learning	Selective Reminding Test Wechsler Memory Scale-Revised
General Knowledge and Premorbid Intelligence	Vocabulary Subtest, WAIS-R Calculation Subtest, Wide Range Achievement Test-Revised
Attention and Planning	Trail Making Test Stroop Color-Word test
Reasoning	Similarities Subtest, WAIS-R

Screening for Social Adjustment

Difficulties in work, family, and social life are a major consequence of both substance abuse and mental illness. A central goal of treatment should be to help clients improve their functioning in these areas. There is good evidence, in fact, that effectively treating mental illness will lead to improvement in social functioning, albeit much more slowly. Indeed, it has been recommended that psychotherapy continue well beyond the resolution of psychopathological symptoms in order to enhance social adjustment (Weissman et al. 1974; Bothwell and Weissman 1977).

Since the World Health Organization (WHO) defined health in terms of "physical, mental, and social well-being, and not merely the absence of disease and infirmity," (WHO 1958; McDowell and Newell 1987) social adjustment has become an important area of research and clinical interest. Social adjustment refers to personal satisfaction with relationships, sense of integration into the community, and subjective and objective performance in various social roles.

Many instruments have been developed to measure performance in a variety of areas, each representing a different aspect of social functioning: the nature and quality of the client's social network; the availability to the client, and his or her ability to use, social support(s); his or her effectiveness in carrying out instrumental activities of daily living; his or her acquisition and performance of occupational, marital, parental, and social roles; and the quality of his or her social skills and leisure activities. Other instruments assess related issues such as sense of wellbeing, life satisfaction, and quality of life (McDowell and Newell 1987; Kane et al. 1985).

From the many instruments in the field we have selected the Social Adjustment Scale—Self-Report (SAS-SR) because it was developed to assess the effect of psychopathology and the impact of treatment on social adjustment. It has also been used widely in psychiatric research with a variety of subjects, including alcoholics and substance abusers (Weissman et al. 1978). The SAS-SR is a self-administered questionnaire that clients can easily complete and which addresses both objective and subjective aspects of work, family, and social life. The Addiction Severity Index has subscales that assess employment/support status, legal status, and family/social relationships; these provide information on size of social network, satisfaction with family and social relationships, interpersonal conflict, sexual and physical abuse, criminal and antisocial behavior, and work history and job satisfaction. For a more thorough discussion of social functioning and related issues and reviews of relevant instruments, see McDowell and Newell (1987) and Kane and colleagues (1985) as cited below.

Instrument

The Social Adjustment Scale-Self Report (SAS-SR)

Developer

Myrna Weissman, Ph.D.

Contact person

Myrna Weissman, Ph.D.
New York State Psychiatric Institute
Unit 14
722 West 168th Street
New York NY 10032

Description

The **Social Adjustment Scale—Self-Report (SAS-SR)** measures performance, both affective and instrumental, in occupational roles, social activities, relations with spouse, parents, and children, and economic independence (Weissman and Bothwell 1976). It is a 42-question, self-administered questionnaire in a precoded, easily used and understood format. The SAS-SR asks the patient to recall behaviors over a 2-week period and takes 15–20 minutes to complete. It yields both an overall adjustment score and six subscale scores. Higher scores indicate greater impairment of social function. The SAS-SR gathers objective data (e.g., How many days did you miss from work? How may friends have you seen or spoken to?); assesses the quality of performance (e.g., Have you been able to do your work [well or poorly]? Have you had arguments with your friends [relatives, partner]?); and inquires about degree of satisfaction with oneself and others (e.g., Have you been ashamed of how you do your work? Have you found your work interesting? Have you felt lonely [bored, bossed around, dependent]?)

Purpose

The SAS-SR measures social adjustment, defined in terms of work, family, and social life. Depression, substance abuse, and other serious mental disorders significantly impact people's lives in these areas. Indeed, improvement in social functioning often lags behind improvement in mental symptoms. Systematic evaluation of a patient's social adjustment at intake can indicate the effects of mental illness and substance abuse on his or her life and can be used to target areas requiring intervention and psychosocial treatment. Reevaluation throughout and after treatment can demonstrate its effects.

Content Areas

The SAS-SR assesses both objective and perceived functioning in occupational role (as worker, housewife, or student), marital role, relationship with extended family, parental role, family unit, social and leisure activities, and economic independence.

Population Inpatient or outpatient adults.

Format Self-administered questionnaire.

Training None to administer; scoring follows precoded questionnaire.

Use The SAS-SR can be used at intake and periodically throughout treatment to assess change in social adjustment that may be attributable to resolution of symptoms and the effects of treatment. It can also indicate a need for additional community services; e.g., employment and family counseling.

Scoring The SAS-SR is precoded and scored on a 5- or 6-point scale, yielding subscale and overall scores. Each form is easily handscored.

Psychometrics The SAS-SR has shown high test-retest reliability ($r = .80$) (Edwards et al. 1978) and good validity in reflecting clinical recovery, discriminating between psychiatric populations and normals in the community, and correlating with other social adjustment interviews (Weissman et al. 1976). Age, gender, or socioeconomic status appear not to affect scores (Weissman and Bothwell 1976).

Norms The SAS-SR has been normed on nonpatient community samples, acutely ill and recovered depressed individuals, alcoholics, and methadone maintenance clients (Weissman, Prusoff and Thompson 1978; Pottenger et al. 1978).

Strengths & Limitations The SAS-SR is easy to use, brief, and highly sensitive to change over time with depressed patients. It measures both subjective and objective aspects of role performance, as well as inner feelings (e.g., shyness, loneliness, disappointment), satisfaction, and subtle aspects of relationships (e.g., dependence, control). It requires literacy.

Related Tests The **Self-Assessment Guide** (Willer and Biggen 1974) is a 55-item self-administered questionnaire that assesses adjustment in seven areas: physical health, interpersonal skills, general affect, personal relations, leisure-time activities, aggression, and employment. This brief scale was originally designed for use at intake to help determine a client's problems in the above areas and to establish treatment goals around those problems. It measures change well. A computerized scoring system is available.

McDowell and Newell (1987) and Kane and colleagues (1985) describe interview schedules and self-administered instruments that focus on social networks, social support, role performance, and satisfaction.

Availability

The SAS-SR is available from the author for $17.

Screening for Physical Symptoms

Substance abuse compromises physical health and wellbeing to varying degrees, causing life-threatening medical problems in some cases and inflicting pain and suffering and delaying the return to acceptable levels of social functioning in others. There is no substitute for a comprehensive medical history and thorough physical examination by a physician. While programs should make every effort to refer their clients to appropriate medical facilities and check on followthrough, they must also monitor a client's health status throughout treatment. This section describes instruments that will give an overview of a client's current health and degree of disability. They are not, however, symptom checklists or diagnostic tools and cannot be relied upon to detect medical illness. Neither instrument was designed for substance abusers and thus neither focuses on the particular health problems found among them. In particular, neither addresses HIV infection, transmission, and prevention. Drug treatment programs may prefer, in consultation with health care providers, to develop their own health assessment protocols to cover substance abuse–related medical problems.

Instrument

SF-36 Health Status Survey

Developers

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Contact Person

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Description

The **SF-36 Health Status Survey** is a short, self-administered health status survey developed to measure health and social functioning in population surveys and health services research (Schroeder 1983). It is based on the Medical Outcomes Study (MOS) surveys developed by Davies and colleagues (Tarlov et al. in press) and is said to represent the core items required for general health assessment. Its 36 items measure physical functioning, limitations in functioning due to physical health problems, social functioning, bodily pain, general mental health, limitations in role functioning due to emotional problems, vitality, and general health perceptions. Items are written in easy to understand language and respondents either rate scales or answer "yes" or "no."

Purpose

The SF-36 is a generic health status questionnaire intended for briefly screening patients or updating their health status for monitoring during clinical trials and in daily clinical practice.

The SF-36 is not a substitute for a thorough medical history and physical examination by a physician. Nor does it address specifically the kinds of health conditions found among drug users (e.g., endocarditis, sexually transmitted diseases, hepatitis B, or HIV infection).

Content Areas

The SF-36 measures eight health concepts (physical functioning, social functioning, role limitations attributed to physical or emotional problems, mental health, energy/fatigue, pain, and general health perception) that are grouped into three major health attributes (functional status, wellbeing, and overall health evaluation). The number of items in each functional area varies.

Population

Persons over age 13.

Format The SF-36 is self-administered but can be used effectively in a personal or telephone interview.

Training None to administer. The User's Manual explains how to code and score completed questionnaires. The front of the questionnaire includes instructions to the patient.

Time 5-10 minutes.

Use The SF-36 is appropriate for assessing a client's perceived general health status and monitoring it over time. It is not an alternative to a physician's assessment.

Scoring A standard scoring system produces a profile of eight health scores and summary indices. Scoring the completed questionnaire entails recoding items, either by hand or by computer, in correct numerical form and then adding item scores in each scale to give a summary scale score. Higher scores indicate better health and higher functioning. The User's Manual includes recoding and scoring directions.

Psychometrics An earlier, 20-item version was extensively tested for reliability and validity. Reliability coefficients for the health scales ranged from .81 to .88 in 3 earlier tests (Stewart et al. 1988). Results from the Medical Outcomes Study report high reliability (.73-.94) as well as excellent validity in distinguishing patients with and without chronic conditions and in discriminating levels of severity in clinical diagnoses (McHorney et al. in press).

Norms Norms were established for the earlier, shorter form on large patient and general population samples (Stewart et al. 1988). Over 50 health care delivery organizations and dozens of clinical trials are using the current SF-36.

Strengths/Limitations The SF-36 is brief and easy to use and covers the major general health areas. It does not assess specific illnesses related to substance abuse.

Related Tests The **Sickness Impact Profile (SIP)** measures the effects of sickness on daily activities, attitudes, and behavior. It assesses 12 areas: Sleep and Rest, Eating, Work, Home Management, Recreation and Pastimes, Ambulation, Mobility, Body Care and Movement, Social Interaction, Alertness Behavior, Emotional Behavior, and Communication. Respondents check which of 136 statements apply to them on that day and are due to health problems. Scorers add

item scores and apply weighting factors to calculate scores for each area and for two comprehensive dimensions (Physical and Psychosocial). The SIP can be self-administered or read by an interviewer in about 30 minutes. Reliability is very high (test-retest, r = .88–.92), especially when administered by an interviewer (r = .97) (Bergner et al. 1981).

Validity has proven acceptable when compared to self-assessments of limitation (.69) or of sickness (.63) and to clinician's assessments of limitation (.50) or of sickness (.40) (McDowell and Newell 1987).

Availability

A User's Manual is available through the author.

No credentials are required to administer the SF–36. There is a user agreement, part of which requires a paragraph describing the intended use of the instrument. Dr. Ware currently requires a 1-year followup, but this may change.

The SF–36 itself is free. Costs for scoring options vary. Users may purchase optical scanning cards, software, and hardware to score the instrument themselves, or they may send completed instruments away for scoring. Send requests for information packet, user agreement, cost information, etc., to the contact person listed above.

Appendix B

DSM–IV DIAGNOSTIC CRITERIA AND MULTIAXIAL SYSTEM

B.1 Use of DSM–IV Diagnostic Criteria

The *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM–IV) specifies the currently accepted criteria for mental diagnoses. It presents these diagnoses on five axes. Axis I specifies clinical syndromes or disorders such as Substance-Related Disorder or Major Depressive Disorder, while Axis II identifies Personality Disorders such as Antisocial Personality Disorder. Axis I describes current conditions and Axis II describes more longstanding character traits. Multiple diagnoses can be made on each Axis. Diagnoses bear both name and number, which may include information about type and chronicity (e.g., 295.32 Schizophrenia, Paranoid Type, Chronic) and level of diagnostic certainty. Axis III describes medical conditions relevant to understanding or treating a person's problems. Axis IV rates the severity of psychosocial and environmental problems in the previous year that are presumed to have precipitated or caused the psychiatric disorder. Finally, Axis V presents the clinician's overall judgment about a person's level of functioning, currently and over the past year, as a score on the Global Assessment of Functioning Scale (GAF) (see appendix B.4, page 143).

The following pages show the DSM–IV criteria for the mental disorders most commonly found among substance abusers. Readers should note that DSM–IV, a revision of DSM–III-R, was published in 1994. Readers who are familiar with DSM–III-R will find that the changes are not substantial; however, to be consistent with this advance in psychiatric diagnostic classification we have used DSM–IV as the reference text for this report.

B.2 Selected DSM-IV Diagnostic Criteria

Diagnostic Criteria for Panic Disorder Without Agoraphobia

A. Both (1) and (2):

(1) recurrent unexpected Panic Attacks
(2) at least one of the attacks has been followed by 1 month (or more) of one (or more) of the following:
  (a) persistent concern about having additional attacks
  (b) worry about the implications of the attack or is consequences (e.g., losing control, having a heart attack, "going crazy")
  (c) a significant change in behavior related to the attacks

B. Absence of Agoraphobia

C. The Panic Attacks are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hyperthyroidism).

D. The Panic Attacks are not better accounted for by another mental disorder, such as Social Phobia (e.g., occurring on exposure to feared social situations), Specific Phobia (e.g., on exposure to a specific phobic situation), Obsessive-Compulsive Disorder (e.g., on exposure to dirt in someone with an obsession about contamination), Posttraumatic Stress Disorder (e.g., in response to stimuli associated with a severe stressor), or Separation Anxiety Disorder (e.g., in response to being away from home or close relatives).*

* Reproduced with permission from the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*, Copyright 1994 American Psychiatric Association. All subsequent criteria in this appendix are similarly reproduced with permission from DSM-IV.

Diagnostic Criteria for Panic Attack

A discrete period of intense fear or discomfort, in which four (or more) of the following symptoms developed abruptly and reached a peak within 10 minutes:

(1) palpitations, pounding heart, or accelerated heart rate
(2) sweating
(3) trembling or shaking
(4) sensations of shortness of breath or smothering
(5) feeling of choking
(6) chest pain or discomfort
(7) nausea or abdominal distress
(8) feeling dizzy, unsteady, lightheaded, or faint
(9) derealization (feelings of unreality) or depersonalization (being detached from oneself)
(10) fear of losing control or going crazy
(11) fear of dying
(12) paresthesias (numbness or tingling sensations)
(13) chills or hot flushes*

Diagnostic Criteria for Agoraphobia

A. Anxiety about being in places or situations from which escape might be difficult (or embarrassing) or in which help may not be available in the event of having an unexpected or situationally predisposed Panic Attack or panic-like symptoms. Agoraphobic fears typically involve characteristic clusters of situations that include being outside the home alone; being in a crowd or standing in a line; being on a bridge; and traveling in a bus, train, or automobile.

B. The situations are avoided (e.g., travel is restricted) or else are endured with marked distress or with anxiety about having a Panic Attack or panic-like symptoms, or require the presence of a companion.*

Diagnostic Criteria for Major Depressive Episode

A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

(1) depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad or empty) or observation made by others (e.g., appears tearful).

(2) markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation made by others).

(3) significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day.

(4) insomnia or hypersomnia nearly every day.

(5) psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).

(6) fatigue or loss of energy nearly every day.

(7) feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).

(8) diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).

(9) recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

B. The symptoms do not meet criteria for a Mixed Episode.

C. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

D. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hypothyroidism).

E. The symptoms are not better accounted for by Bereavement, i.e., after the loss of a loved one, the symptoms persist for longer than 2 months or are characterized by marked functional impairment, morbid preoccupation with worthlessness, suicidal ideation, psychotic symptoms, or psychomotor retardation.*

Diagnostic Criteria for Generalized Anxiety Disorder

A. Excessive anxiety and worry (apprehensive expectation), occurring more days than not for at least 6 months, about a number of events or activities (such as work or school performance).

B. The person finds it difficult to control the worry.

C. The anxiety and worry are associated with three (or more) of the following six symptoms (with at least some symptoms present for more days than not for the past 6 months).

(1) restlessness or feeling keyed up or on edge.
(2) being easily fatigued.
(3) difficulty concentrating or mind going blank
(4) irritability.
(5) muscle tension.
(6) sleep disturbance (difficulty falling or staying asleep, or restless unsatisfying sleep).

D. The focus of the anxiety and worry is not confined to features of an Axis I disorder, e.g., the anxiety or worry is not about having a Panic Attack (as in Panic Disorder), being embarrassed in public (as in Social Phobia), being contaminated (as in Obsessive-Compulsive Disorder), being away from home or close relatives (as in Separation Anxiety Disorder), gaining weight (as in Anorexia Nervosa), having multiple physical complaints (as in Somatization Disorder), or having a serious illness (as in Hypochondriasis), and the anxiety and worry do not occur exclusively during Posttraumatic Stress Disorder.

E. The anxiety, worry, or physical symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

F. The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., hyperthyroidism) and does not occur exclusively during a Mood Disorder, a Psychotic Disorder, or a Pervasive Development Disorder.*

Diagnostic Criteria for Posttraumatic Stress Disorder

A. The person has been exposed to a traumatic event in which both of the following were present:

(1) the person experienced, witnessed, or was confronted with an event(s) that involved actual or threatened death or serious injury, or a threat to the physical integrity of self or others.

(2) the person's response involved intense fear, helplessness, or horror.

B. The traumatic event is persistently reexperienced in one (or more) of the following ways:

(1) recurrent and intrusive distressing recollections, including images, thoughts, or perceptions.

(2) recurrent distressing dreams of the event.

(3) acting or feeling as if the traumatic event were recurring (includes a sense of reliving the experience, illusions, hallucinations, and dissociative flashback episodes, including those that occur on awakening or when intoxicated).

(4) intense psychological distress at exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

(5) physiological reactivity on exposure to internal or external cues that symbolize or resemble an aspect of the traumatic event.

C. Persistent avoidance of stimuli associated with the trauma and numbing of general responsiveness (not present before the trauma), as indicated by three (or more) of the following:

(1) efforts to avoid thoughts, feeling, or conversations associated with the trauma.

(2) efforts to avoid activities, places, or people that arouse recollections of the trauma.

(3) inability to recall an important aspect of the trauma.

(4) markedly diminished interest or participation in significant activities.

(5) feeling of detachment or estrangement from others.

(6) restricted range of affect (e.g., unable to have loving feelings).

(7) sense of a foreshortened future (e.g., does not expect to have a career, marriage, children, or a normal life span).

D. Persistent symptoms of increased arousal (not present before the trauma), as indicated by two (or more) of the following:

(1) difficulty falling or staying asleep.

(2) irritability or outbursts of anger.

(3) difficulty concentrating.

(4) hypervigilance.

(5) exaggerated startle response.

E. Duration of the disturbance (symptoms in Criteria B, C, and D) is more than 1 month.

F. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.*

Diagnostic Criteria for Manic Episode

A. A distinct period of abnormally and persistently elevated, expansive, or irritable mood, lasting at least 1 week (or any duration if hospitalization is necessary).

B. During the period of mood disturbance, three (or more) of the following symptoms have persisted (four if the mood is only irritable) and have been present to a significant degree.

(1) inflated self-esteem or grandiosity.

(2) decreased need for sleep (e.g., feels rested after only 3 hours of sleep)

(3) more talkative than usual or pressure to keep talking.

(4) flight of ideas or subjective experience that thoughts are racing.

(5) distractibility (i.e., attention too easily drawn to unimportant or irrelevant external stimuli).

(6) increase in goal-directed activity (either socially, at work or school, or sexually) or psychomotor agitation.

(7) excessive involvement in pleasurable activities that have a high potential for painful consequences (e.g., engaging in unrestrained buying sprees, sexual indiscretions, or foolish business investments).

C. The symptoms do not meet criteria for a Mixed Episode.

D. The mood disturbance is sufficiently severe to cause marked impairment in occupational functioning or in usual social activities or relationships with others, or to necessitate hospitalization to prevent harm to self or others, or there are psychotic features.

E. The symptoms are not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication, or other treatment) or a general medical condition (e.g., hyperthyroidism).*

Diagnostic Criteria for Antisocial Personality Disorder

A. There is a pervasive pattern of disregard for and violation of the rights of others occurring since age 15 years, as indicated by three (or more) of the following:

(1) failure to conform to social norms with respect to lawful behaviors as indicated by repeatedly performing acts that are grounds for arrest.

(2) deceitfulness, as indicated by repeated lying, use of aliases, or conning others for personal profit or pleasure.

(3) impulsivity or failure to plan ahead.

(4) irritability and aggressiveness, as indicated by repeated physical fights for assaults.

(5) reckless disregard for safety of self or others.

(6) consistent irresponsibility, as indicated by repeated failure to sustain consistent work behavior or honor financial obligations.

(7) lack of remorse, as indicated by being indifferent to or rationalizing having hurt, mistreated, or stolen from another.

B. The individual is at least age 18 years.

C. There is evidence of Conduct Disorder with onset before age 15 years.

D. The occurrence of antisocial behavior is not exclusively during the course of Schizophrenia or a Manic Episode.*

Diagnostic Criteria for Schizophrenia

A. *Characteristic symptoms*. Two (or more) of the following, each present for a significant portion of time during a 1-month period (or less if successfully treated):

(1) delusions.

(2) hallucinations.

(3) disorganized speech (e.g., frequent derailment or incoherence).

(4) grossly disorganized or catatonic behavior.

(5) negative symptoms, i.e., affective flattening, alogia, or avolition.

Note: Only one Criterion A symptom is required if delusions are bizarre or hallucinations consist of a voice keeping up a running commentary on the person's behavior or thoughts, or two or more voices conversing with each other.

B. *Social/occupational dysfunction*: For a significant portion of the time since the onset of the disturbance, one or more major areas of functioning such as work, interpersonal relations, or self-care are markedly below the level achieved prior to the onset (or when the onset is in childhood or adolescence, failure to achieve expected level of interpersonal, academic, or occupational achievement).

C. *Duration*: Continuous signs of the disturbance persist for at least 6 months. This 6-month period must include at least 1 month of symptoms (or less if successfully treated) that meet Criterion A (i.e., active-phase symptoms) and may include periods of prodromal or residual symptoms. During these prodromal or residual periods, the signs of the disturbance may be manifested by only negative symptoms or two or more symptoms listed in Criterion A present in an attenuated form (e.g., odd beliefs, unusual perceptual experiences).

D. *Schizoaffective and Mood Disorder exclusion*: Schizoaffective Disorder and Mood Disorder With Psychotic Features have been ruled out because either (1) no Major Depressive, Manic, or Mixed Episodes have occurred concurrently with the active-phase symptoms; or (2) if mood episodes have occurred during active-phase symptoms, their total duration has been brief relative to the duration of the active and residual periods.

E. *Substance/general medical condition exclusion*: The disturbance is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition.

F. *Relationship to a Pervasive Development Disorder*: If these is a history of Autistic Disorder or another Pervasive Development Disorder, the additional diagnosis of Schizophrenia is made only if prominent delusions or hallucinations are also present for at least a month (or less if successfully treated).*

Diagnostic Criteria for Substance Dependence

A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in the same 12-month period:

(1) tolerance, as defined by either of the following:

  (a) a need for markedly increased amounts of the substance to achieve intoxication or desired effect.

  (b) markedly diminished effect with continued use of the same amount of the substance.

(2) withdrawal, as manifested by either of the following:

  (a) the characteristic withdrawal syndrome for the substance (refer to Criteria A and B of the criteria sets for Withdrawal from the specific substances).

  (b) the same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms.

(3) the substance is often taken in larger amounts or over a longer period than was intended.

(4) there is a persistent desire or unsuccessful efforts to cut down or control substance use.

(5) a great deal of time is spent in activities necessary to obtain the substance (e.g., visiting multiple doctors or driving long distances), use the substance (e.g., chain-smoking), or recover from its effects.

(6) important social, occupational, or recreational activities are given up or reduced because of substance use.

(7) the substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (e.g., current cocaine use despite recognition of cocaine-induced depression, or continued drinking despite recognition that an ulcer was made worse by alcohol consumption).*

Diagnostic Criteria for Substance Abuse

A. A maladaptive pattern for substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period:

(1) recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home (e.g., repeated absences or poor work performance related to substance use; substance-related absences, suspensions, or expulsions from school; neglect of children or household).

(2) recurrent substance use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by substance use).

(3) recurrent substance-related legal problems (e.g., arrests for substance-related disorderly conduct).

(4) continued substance use despite having persistent or recurrent social or interpersonal problems cause or exacerbated by the effects of the substance (e.g., arguments with spouse about consequences of intoxication, physical fights).

B. The symptoms have never met the criteria for Substance Dependence for this class or substance.*

Diagnostic Criteria for Substance-Induced Mood Disorder

A. A prominent and persistent disturbance in mood predominates in the clinical picture and is characterized by either (or both) of the following:

(1) depressed mood or markedly diminished interest or pleasure in all, or almost all, activities, or

(2) elevated, expansive, or irritable mood.

B. Evidence from the history, physical examination, or laboratory findings of either (1) or (2):

(1) the symptoms in Criterion A developed during, or within a month of, Substance Intoxication or Withdrawal.

(2) medication use is etiologically related to the disturbance.

C. The disturbance is not better accounted for by a Mood Disorder that is not substance induced. Evidence that the symptoms are better accounted for by a Mood Disorder that is not substance induced might include the following: the symptoms preceded the onset of the substance use (or medication use); the symptoms persist for a substantial period of time (e.g., about a month) after the cessation of acute withdrawal or severe intoxication or are substantially in excess of what would be expected given the type or amount of the substance used or the duration of use; or there is other evidence that suggests the existence of an independent non-substance-induced Mood Disorder (e.g., a history of recurrent Major Depressive Episodes).

D. The disturbance does not occur exclusively during the course of a delirium.

E. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.*

Diagnostic Criteria for Substance-Induced Anxiety Disorder

A. Prominent anxiety, Panic Attacks, or obsessions or compulsions predominate in the clinical picture.

B. Evidence from the history, physical examination, or laboratory findings of either (1) or (2):

(1) the symptoms in Criterion A developed during, or within 1 month of, Substance Intoxication or Withdrawal.

(2) medication use is etiologically related to the disturbance.

C. The disturbance is not better accounted for by an Anxiety Disorder that is not substance induced. Evidence that the symptoms are better accounted for by an Anxiety Disorder that is not substance induced might include the following: the symptoms precede the onset of the substance use (or medication use); the symptoms persist for a substantial period of time (e.g., about a month) after the cessation of acute withdrawal or severe intoxication or are substantially in excess of what would be expected given the type or amount of the substance used or the duration of use; or there is other evidence suggesting the existence of an independent non-substance-induced Anxiety Disorder (e.g., a history of recurrent non-substance-related episodes).

D. The disturbance does not occur exclusively during the course of a delirium.

E. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.*

B.3 DSM-IV Axis IV: Psychosocial and Environmental Problems

Axis IV, Psychosocial and Environmental Problems, identifies psychosocial and environmental problems that could affect diagnosis, treatment, and outcome. Whereas DSM-IV asked clinicians to rate the severity of these problems, DSM-IV expects them to note the relevant categories of problems and describe the specific factors involved. The problem categories, with examples, follow:

- **Problems with primary support group**—e.g., death of a family member; health problems in family; disruption of family by separation, divorce, or estrangement; removal from home; remarriage of parent; sexual or physical abuse; parental overprotection; neglect of child; inadequate discipline; discord with siblings; or birth of a sibling.

- **Problems related to the social environment**—e.g., death or loss of friend; inadequate social support; living alone; difficulty with acculturation; discrimination; or adjustment to life-cycle transition (such as retirement).

- **Educational problems**—e.g., illiteracy; academic problems; discord with teachers or classmates; or inadequate school environment.

- **Occupational problems**—e.g., unemployment; threat of job loss; stressful work schedule; difficult work conditions; job dissatisfaction; job change; or discord with boss or coworkers.

- **Housing problems**—e.g., homelessness; inadequate housing; unsafe neighborhood; or discord with neighbors or landlord.

- **Economic problems**—e.g., extreme poverty; inadequate finances; or insufficient welfare support.

- **Problems with access to health care services**—e.g., inadequate health care services; transportation to health care facilities unavailable; or inadequate health insurance.

- **Problems related to interaction with the legal system/crime**—e.g., arrest; incarceration; litigation; or victim of crime.

- **Other psychosocial and environmental problems**—e.g., exposure to disasters, war, other hostilities; discord with nonfamily caregivers such as counselor, clinical social worker, or physician; unavailability of social service agencies.*

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B.4 DSM–IV Axis V: Global Assessment of Functioning (GAF) Scale

Code	Meaning
100–91	Superior functioning in a wide range of activities, life's problems never seen to get out of hand, is sought out by others because of his or her many positive qualities. No symptoms.
90–81	Absent or minimal symptoms (e.g., mild anxiety before an exam), good functioning in all areas, interested and involved in a wide range of activities, socially effective, generally satisfied with life, no more than everyday problems or concerns (e.g., an occasional argument with family members).
80–71	If symptoms are present, they are transient and expectable reactions to psychosocial stressors (e.g., difficulty concentrating after family argument); no more than slight impairment in social, occupational, or school functioning (e.g., temporarily falling behind in schoolwork).
70–61	Some mild symptoms (e.g., depressed mood and mild insomnia) OR some difficulty in social occupational, or school functioning (e.g., occasional truancy, or theft within the household), but generally functioning pretty well, has some meaningful interpersonal relationships.
60–51	Moderate symptoms (e.g., flat affect and circumstantial speech, occasional panic attacks) OR moderate difficulty in social, occupational, or school functioning (e.g., few friends, conflicts with peers or coworkers).
50–41	Serious symptoms (e.g., suicidal ideation, severe obsessional rituals, frequent shoplifting) OR any serious impairment in social, occupational, or school functioning (e.g., no friends, unable to keep a job).
40–31	Some impairment in reality testing or communication (e.g., speech is at times illogical, obscure, or irrelevant) OR major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood (e.g., depressed man avoids friends, neglects family, and is unable to work; child frequently beats up younger children, is defiant at home, and is failing at school).
30–21	Behavior is considerably influenced by delusions or hallucinations OR serious impairment in communication or judgement (e.g., sometimes incoherent, acts grossly inappropriately, suicidal preoccupation) OR inability to function in almost all areas (e.g., stays in bed all day; no job, home, or friends).
20–11	Some danger of hurting self or others (e.g., suicide attempts without clear expectation of death; frequently violent; manic excitement) OR occasionally fails to maintain minimal personal hygiene (e.g., smears feces) OR gross impairment in communication (e.g., largely incoherent or mute).

10–1 Persistent danger of severely hurting self or others (e.g., recurrent violence) OR persistent inability to maintain minimal personal hygiene OR serious suicidal act with clear expectation of death.

0 Inadequate information.*

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Appendix C

PSYCHOMETRIC PROPERTIES OF INSTRUMENTS

Once an instrument has been developed, it should be tested to determine whether there are any problems in administration or any subjects whom it might not suit. Testing also determines its psychometric properties; that is, whether the information it provides is true (its *validity*) and whether it can be counted on to provide the same information every time it is used and with every subject (its *reliability*). Reliability and validity are technical terms with very specific meanings and are assessed using particular statistical tests.

Reliability, of which there are two types, refers to an instrument's dependability. Good *interrater reliability* means that two or more interviewers who use the instrument to interview the same subject will obtain the same results. Good *test-retest reliability* means that administering it a second time to the same subject within a short period will produce the same results. The more closely the scores from the two interviewers or two admininstrations match (the higher their *correlation*), the better the reliability. The highest possible correlation is 1.0. Psychological phenomena are difficult to measure, though, and correlations of 0.5 and above are thus generally acceptable.

Validity means that an instrument truly measures what it claims to measure. It is not easy to measure behavior and psychological phenomena; there is nothing concrete to quantify as in drug or alcohol screening in urine or blood. Nevertheless, most people consider certain standards to measure behavior well, such as an experienced clinician's judgment or a widely accepted assessment instrument like the Hamilton Depression Rating Scale (HDRS). Investigators compare the instrument they are studying against the established standards to determine its validity. If the instrument identifies as "depressed" the same people that the clinician or the HDRS do—that is, if scores on the instrument and the standard correlate highly—then the instrument is considered to have good validity.

The concepts of *sensitivity* and *specificity* relate to validity. A *sensitive* test will correctly identify a symptom or a disorder in a person who actually has it. A *specific* test will pick up *only* the disorder it is meant to detect, and not other disorders. A test should be as specific and sensitive as possible.

Another issue relevant to an instrument's quality is the availability of comparison data. How can we know what a particular individual's score on a symptom severity rating scale means unless we can compare it to the scores of other people with symptoms of known severity? The most useful instruments are those for which research has established considerable *normative data*, or average scores for various groups based on extensive testing. Psychological researchers obtain normative data not only on the general population, but on specific populations, such as psychiatric inpatients and outpatients, and on subpopulations, such as Hispanic psychiatric patients. Ideally, one should be able to compare a subject's score on a particular instrument to

the scores of subjects of similar age, education, socioeconomic status, and behavioral or psychological problems. For example, if we compare the intelligence test results of a person with an 8th-grade education with those of college-educated persons, his or her scores will look far worse than if we compared them to those of people with all levels of education. It is thus important when evaluating people with substance abuse problems to use instruments that have been used with either substance abusers or with other people from similar backgrounds—or, ideally, both. This also ensures that the group in question will not pose unsurmountable difficulties in administering the test.

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